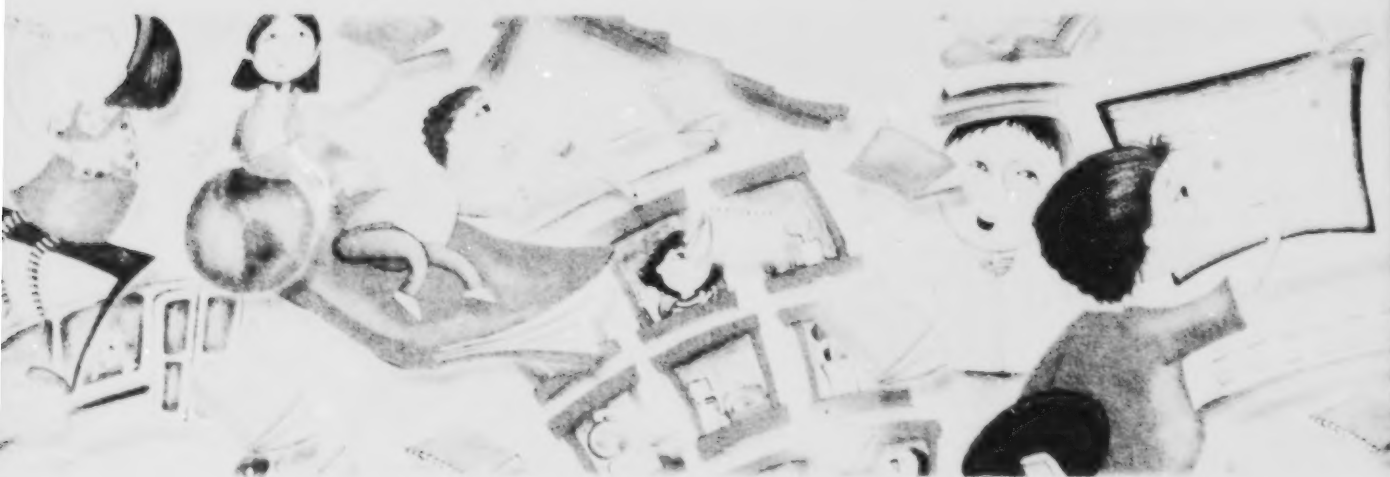




Ontario Provincial Report on Achievement

1999–2000

English-Language Schools



Education
Quality and
Accountability
Office

**Ontario Provincial Report
on Achievement**
1999-2000



Education
Quality and
Accountability
Office

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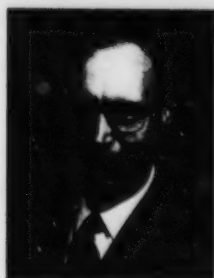
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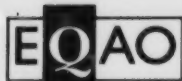
Web site: www.eqao.com

Note: In this report, the word "parent(s)" means a parent, legal guardian or any other person who acts as a caregiver.

The Board of Directors



The Board of Directors,
from left to right,
Robert Surtees, Bette
Stephenson, Bob Bonisteel,
Martin Cugelman, Dominic
Giroux, Maureen Kempston
Darkes, Jerry Ponikvar,
Doretta Wilson.



Education
Quality and
Accountability
Office

Suite 1200
2 Carlton St.
Toronto, ON M5B 2M9
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November 2, 2000

Honourable Janet Ecker
Minister of Education
900 Bay Street
Mowat Block, 22nd Floor
Toronto, Ontario
M7A 1L2

Dear Minister:

The Board of Directors of the Education Quality and Accountability Office (EQAO) is pleased to present its fourth annual *Provincial Report on Achievement*.

The *Provincial Report on Achievement* summarizes our key findings from the 1999-2000 province-wide Grade 3 and Grade 6 assessments and from the various national and international assessments that we have coordinated over the past year. We are confident that the data in this report are reliable and worthy of public scrutiny, debate and action.

Each assessment cycle provides the people of Ontario with additional evidence about how well the publicly funded school system is meeting the needs of Ontario students. One of the most important outcomes of our work over the past five years has been the increased level and quality of public discussion about student achievement. Parents and educators recognize the need to collect and use data on student achievement and on the wide variety of factors in school and at home that affect student achievement. Policy-makers and members of the public are more aware about what can be done to reinforce the strengths and address the shortcomings of our education system.

Our elementary assessments have been catalysts for reflection, discussion and improvement. We look forward to building on this success in Ontario's secondary schools as we work in partnership with students, educators and parents to implement the *Grade 9 Assessment of Mathematics* and the *Grade 10 Test of Reading and Writing Skills*.

We continue to be deeply committed to promoting an assessing and reporting cycle that leads to action.

We trust that you will find this report informative and useful. We are confident that the parents, educators and the people of Ontario will use the findings and recommendations in this report as guideposts for constructive dialogue and improvement.

The Board of Directors of EQAO,

Robert Surtees,
Chair

Bette Stephenson,
Vice-Chair

Bob Bonistee!

Martin Cugelman

Maureen Kempston
Darkes

Dominic Giroux

Jerry Ponikvar

Doretta Wilson

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CEO's Message

Much has changed in Ontario's education system since I began working with a newly appointed Board of Directors in May of 1995 to launch the Education Quality and Accountability Office.

Six years ago, many Ontarians addressed the Royal Commission on Learning with their concerns about school effectiveness, leading the Commission to identify accountability as a "burning and legitimate issue" among parents and members of the public. The result was the recommendation that the government create an independent body dedicated to providing sound, reliable data about student achievement and education quality in Ontario's publicly funded schools. EQAO was established and given a mandate to collect information and to develop processes that would combine open reporting of results with efforts to accomplish sustained, deeply rooted improvements. This is, of course, what constitutes genuine accountability.

Ontario's schools and school boards have come to grips with the need to demonstrate accountability to parents and the public. The education system is in the midst of tremendous change and is under intense scrutiny. Teachers and principals have taken significant steps to be clear about both their expectations and their strategies for improvement.

Our province-wide tests provide an important measure of the effectiveness of the system and identify benchmarks that can provide a focus for discussion of improvement. In addition to measuring students' learning at key stages in their schooling, EQAO assessments promote dialogue and cooperation among educators, parents and all other partners in the educational community. There is substantial evidence that parents are now better informed about their children's achievement and about the expectations and standards in the provincial curriculum. Even more will be accomplished in the next few years. This fall, EQAO is publishing the *Ontario Guide and Report on School Improvement Planning*, which reports on the action plans of Ontario school boards and emphasizes the important role of school councils in working with school staff to optimize learning for all students. This winter, our Education Quality Indicators Program (EQUIP) will provide extensive data on a broad range of factors inside and outside the school that contribute to student achievement.

This year's assessments mark some new milestones. For the first time, the students who took part in the annual Grade 3 assessment have been taught the new curriculum since Grade 1. The group of students who wrote this year's Grade 6 assessment is the same group that participated in the very first Grade 3 assessment in 1997.

The assessment results are important, but they represent only the first step. After analyzing students' scores, responses from student, parent and educator questionnaires and contextual data, concrete plans for improvement can be devised and implemented.



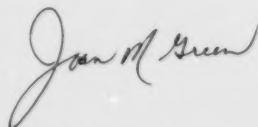
Joan M. Green

Our two new secondary assessments, the annual Grade 9 Assessment of Mathematics and the Grade 10 Test of Reading and Writing Skills, will be administered for the first time this year. The school, school board and provincial results from the four assessments will allow parents, educators and the public to track improvements in student achievement from year to year, from the early years of schooling right up to the midpoint of secondary school.

The Grade 9 and 10 assessments will build on our Grade 3 and 6 model, which provides a valuable window on students' thinking because it requires them to develop their own responses to complex problems. We are committed to these kinds of assessments because students, now more than ever, need to know how to frame problems for themselves, how to design solutions, how to deal with ambiguity and how to shift purposes in light of new information. Education must cultivate understanding, practical judgement and the application of skills. Young people will participate in a world defined by ever-expanding knowledge and constant innovation — a world where, through the connectivity of technology, learning will know no international boundaries. To quote one secondary school student, "Schools need to help students understand how we learn so that we can deal with new situations when no one is around to tell us what to do."

As Professor Emeritus Ursula Franklin reminds us, "Growth cannot be commandeered. It can only be nurtured and encouraged by providing suitable environments." In the end, it is up to educators, policy-makers and communities to discover the best conditions for progress and then strive to meet them.

EQAO's assessments have been built on the assumption that evaluation is not something that comes at the end of learning; rather, it is today's measure of what needs to be done tomorrow. We must not lose the momentum for continuous improvement that good assessment data have helped to create. In Ontario, we are using assessment tools that show what students know and can do. Our measures are thorough and authentic; so, too, must be our efforts to use the results to shape improvement in learning and teaching.



Joan M. Green
Chief Executive Officer

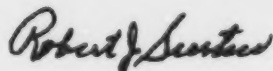
Chair's Message

As EQAO enters its fifth year of province-wide student testing, our Board remains committed to supporting continual, measurable improvement in education. Through our tests and the monitoring of school and school board improvement plans, we have found our schools to be strong and we have identified which areas can be improved. Schools and school boards are currently working with parents, school councils and community members to prepare and release improvement plans that take into account data from EQAO's assessments.

This year EQAO's mandate expanded considerably. In addition to the annual Grade 3 and Grade 6 Assessments in Reading, Writing and Mathematics, EQAO developed the Grade 9 Assessment of Mathematics and the Grade 10 Test of Reading and Writing Skills. These will all become annual assessments in the 2000-2001 school year.

We recognize and value the dedication and expertise of Ontario's educators in our work. The assessments have been designed, developed, validated, field tested and graded by teachers and principals throughout the province. The student achievement data that emerges can be used by teachers, parents and students to plan for individual student and school improvements.

Our board is pleased to present this fourth annual *Provincial Report on Achievement*. It brings together results and recommendations from the provincial, national and international assessments that took place during 1999-2000. It highlights provincial trends and identifies areas that call for action on the part of every community across Ontario.



Robert Surtees



Robert Surtees

Education Quality and Accountability Office (EQAO)

ROLE

EQAO promotes greater accountability and better quality in Ontario's publicly funded school system. An independent, arm's-length agency of the provincial government, EQAO provides parents, teachers and the public with accurate and reliable information about student achievement. EQAO also makes recommendations for improvement that educators, parents, policy-makers and others in the education community can use to improve learning and teaching.

Responsibilities

- Conduct province-wide tests of elementary and secondary school students
- Coordinate Ontario's participation in national and international assessments
- Develop and implement a provincial Education Quality Indicators Program (EQUIP) to strengthen school board accountability
- Report to parents and the public about student achievement and education quality in Ontario
- Make recommendations for school and system improvement

Values

- EQAO values the well-being of learners above all other interests.
- EQAO values only that information which has the potential to bring about constructive change and improvement.
- EQAO values the dedication and expertise of Ontario's educators and works to involve them in all of its activities.
- EQAO values the delivery of its programs and services with equivalent quality in both English and French.

Approach

- Assess students' achievement in different subject areas and at key stages in their schooling
- Assess students' achievement against the expectations in the provincial curriculum
- Analyze data on student achievement and the learning environment inside and outside the school to determine where progress is being made and where gaps still need to be closed
- Prepare materials and provide opportunities that teachers can use to enhance their skills and expertise in assessment
- Report to parents, students, educators and the public about student achievement and education quality
- Recommend strategies for improvement
- Monitor improvements in student achievement over time to reinforce best practices and to identify areas where further attention is required
- Support a culture of assessment through ongoing testing, research and implementation of a quality indicators program



Education Quality Indicators Program (EQUIP)

Background

EQAO has been developing the Education Quality Indicators Program (EQUIP) since 1998. An EQUIP Advisory Committee was formed in the spring of 1998 and meets regularly to provide advice to EQAO. This committee includes representation from all four publicly funded school systems, the Directors of Education and Trustee associations, teachers' federations, principals' organizations, supervisory officers' associations, the Ministry of Education, the Education Improvement Commission, parent organizations, business groups and education research practitioners.

Assessment results represent an important source of information about the academic achievement of students. However, parents, educators and members of the public also need information on a wide variety of factors that influence student achievement and school quality. EQUIP will build on the existing assessment information to provide a more comprehensive picture of the publicly funded education system in Ontario.

One of EQUIP's main purposes is to provide a full picture of the factors inside and outside the school that contribute to achievement. With this additional contextual information, educators and parents will be able to take their interpretation and analysis of EQAO assessment results a step further and draw more precise conclusions about the changes that need to be made in order to enhance learning and teaching.

EQUIP will produce indicator profiles at the school, school board and provincial levels. In addition, by providing qualitative and quantitative data on the learning environment inside each school, EQUIP will help parents and educators understand the variety of factors that determine the effectiveness of school programs and students' learning. When it is

fully implemented, EQUIP will provide information under nine themes using 32 specific educational indicators. The complete list of themes and indicators follows.

The consultation process that EQAO initially used to select these indicators resulted in over 600 responses from individuals and organizations, including school board personnel, school principals and teachers, parents, school councils, teachers' federations, community groups, business associations and education associations. Since the first formal consultation in 1998, EQAO has sought continued input and response through regular meetings of the EQUIP Advisory Committee and through presentations to key stakeholder groups.

Until the work on EQUIP began, Ontario was behind other jurisdictions in studying this field. However, EQUIP has gone beyond the work of other provinces by providing data at three levels: the school, school board and province. This information will further support schools in taking responsibility for their school improvement planning and in comparing their student achievement results with those of "statistical neighbours" or "schools like ours" to determine practices that make a difference. Through such comparisons, schools and their communities can more clearly identify strengths and shortcomings and the means through which performance can be improved.

Current Status

EQAO is currently conducting a trial application based on seven themes and using 20 indicators for which data are available from existing sources, such as from the Ministry of Education, Statistics Canada and EQAO assessment questionnaires. The trial application will allow EQAO staff and the Advisory Committee to examine data management, analysis and reporting procedures.

In addition, EQAO is now attempting to determine the most effective and efficient way to obtain accurate and reliable socio-economic data for schools and school boards. To facilitate this process, ten school boards have voluntarily provided student postal code data and Statistics Canada has agreed to provide corresponding socio-economic data.

Next Steps

Once staff has analyzed data from the trial application, EQAO will produce three kinds of reports:

- a general report about the trial and its implications for the full application of EQUIP, which will take place in the 2000-2001 school year;
- a technical report that will guide the further development of data management and analytical processes; and
- a summary of indicator data for those school boards that volunteered student postal code data.

The trial application will be used to refine both indicators and processes for the first full application of EQUIP. Several volunteer school boards have developed additional instruments for gathering data about school

councils, parental involvement, school/community partnerships, curriculum implementation, professional development and graduates and their destinations. Additional volunteer school boards have agreed to field test these instruments this fall.

The results of the trial application and field testing of additional instruments will determine which of the 32 indicators will be used in the first full application of EQUIP, to be conducted this winter. Reports from this application will be available in the spring of 2001.

LIST OF INDICATORS

Community, Student and Family Demographics

1. Enrolment, school size
2. Socio-economic status: family income, educational attainment
3. Index of educational attainment
4. Language background
5. Special needs
6. Student mobility

Education Financing

1. Intra-board financial indicators

Preparedness to Learn and Early Learning Support

1. Preschool experience
2. Readiness-to-learn scale

Leadership

1. Leadership index: school-level planning, collaboration, consultation, staff support, school council support

School Climate

1. Safety
2. Student attendance
3. Class size and organization
4. Support personnel
5. Types of special education programs available
6. Physical structure of school

Community-School Relationships

1. School-community partnerships
2. School councils

Teaching and Learning Environment

1. Time distribution for selected subjects at elementary school level
2. Use of selected methods or strategies of instruction
3. Use of selected assessment materials and methods
4. Use of computers in selected subjects
5. Teacher professional development, planning and collaboration
6. Parental involvement
7. Teacher qualifications and experience
8. Curriculum

Perception and Satisfaction of Parents, Students and Teachers

1. Percentage of public/parents/students/teachers satisfied with education

Student Achievement

1. Provincial achievement results
2. National and international achievement results
3. Longitudinal information or career profile
4. Students completing high school
5. Credit accumulation

Assessment Activities 2000-2001

Provincial

<i>Level</i>	<i>Population</i>	<i>Subject(s)</i>	<i>Status</i>
Grade 3 Assessment of Reading, Writing and Mathematics	All Grade 3 students	Reading, Writing and Mathematics	- Assessment completed - Individual results released in early fall 2000; school, board and provincial results released October 2000 - Development of materials for spring 2001 assessment
Grade 6 Assessment of Reading, Writing and Mathematics	All Grade 6 students	Reading, Writing and Mathematics	- Assessment completed - Individual results released in early fall 2000; school, board and provincial results released October 2000 - Development of materials for spring 2001 assessment
Grade 9 Assessment of Mathematics	All Grade 9 students enrolled in Applied and Academic Mathematics programs	Mathematics	- Assessment will be held in January 2001 for first-semester students and June 2001 for full-year and second-semester students - Individual results released fall 2001; school, board and provincial results released October 2001 - Field testing for Investigations component in a sample population, spring 2001 - Development of materials for 2002 assessment
Grade 10 Test of Reading and Writing Skills	All Grade 10 students working towards a high school diploma	Reading and Writing	- Assessment completed October 2000 - Individual results released early 2001; school, board and provincial results released October 2001 - Development of materials for 2002 assessment

National

<i>Level</i>	<i>Population</i>	<i>Subject(s)</i>	<i>Status</i>
School Achievement Indicators Program (SAIP)	Randomly sampled 13- and 16-year-old students	Science	- Assessment completed 1999 - Results released June 2000
	Randomly sampled 13- and 16-year-old students	Mathematics	- Conduct Assessment April 2001 - Results due 2002

International

<i>Level</i>	<i>Population</i>	<i>Subject(s)</i>	<i>Status</i>
Third International Mathematics and Science Study Repeat Project (TIMSS-R)	Randomly sampled Grade 8 students	Mathematics, Science (written component)	• Assessment completed 1999 • Results released June 2000
Second Information Technology in Education Study (SITES) Module 1	Randomly selected schools enrolling students in Grades 5 and 9, and students in their final year of secondary school (12/OAC)	Use and availability of information technology in schools (questionnaires for principals and computer coordinators)	• Surveys administered November and December 1998 • Results released fall 1999
Second Information Technology in Education Study (SITES) Module 2	3-4 schools selected for study for each level involved (elementary, lower secondary and upper secondary)	Case studies of school sites displaying exemplary, innovative teaching practices using technology	• Field testing 1999-2000 • Conduct case studies 2000-2001 • Results due 2002
Organization for Economic Co-operation and Development's (OECD) Program for International Student Assessment (PISA)	Randomly sampled 15-year-old students	Reading (major subject) Mathematics, Science (minor subjects)	• Assessment completed April/May 2000 • Results due 2001
Progress in International Reading Literacy Study (PIRLS)	Randomly sampled 9-year-old students	Reading literacy study	• Field testing 2000 • Conduct assessment 2001 • Results due 2002



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The EQAO Assessment Cycle and Quality Assurance

Stage One: Design and Development

Design

EQAO establishes the blueprint and guidelines for developers.

- The blueprint organizes the curriculum expectations into categories and outlines the curriculum requirements for each assessment.
- The guidelines are based on EQAO values and sound assessment practices.

EQAO selects and field tests student reading materials.

- Materials are read and validated by students, teachers and outside experts to ensure that they are appropriate in terms of grade level and free of bias.

EQAO creates scales to be used to mark the assessment.

- Scales are based on the Ontario Curriculum Achievement Scales.

Development

Development teams of educators use the blueprint and EQAO guidelines to develop assessments.

They

- review the blueprint and development guidelines;
- decide on an organizing framework for assessment;
- create questions based on the EQAO guidelines, using texts that have been field tested in classrooms;
- develop associated test materials, including
 - > an *Administration Guide* for board personnel, principals and teachers;
 - > *Teacher's Daily Plans* for administering the assessment; and
 - > teacher, student, home and principal questionnaires.

Monitoring and Quality Assurance Procedures

- A Technical Committee of assessment experts guides design and development to ensure consistency with EQAO values and sound assessment practices.
- EQAO personnel direct, monitor and support the work of Development Teams.
- A Validation Team of educators examines test materials for bias and appropriateness.
- English and French Development Teams work collaboratively to ensure comparability of assessments.

Privacy legislation prevents EQAO from releasing personal information about individual students, teachers or parents to the public. Therefore, student, home and teacher questionnaires are summarized by school and school board, except where there are fewer than five students or teachers. Principal questionnaires are summarized by school board, except where there are fewer than five schools. All four questionnaires are summarized at the provincial level.

The 1999-2000 Grade 3 assessment was field tested in 40 classrooms across the province with over 1,100 Grade 4 students. The 1999-2000 Grade 6 assessment was field tested in 44 classrooms across the province with over 1,100 Grade 7 students. The teachers who administered the field tests were asked to record the time it took students to complete the activities. This information was then used by EQAO staff to revise specified times in the *Teacher's Daily Plans*, which teachers use to administer assessments.

Stage Two: Piloting, Field Testing and Revisions

Piloting

Piloting is the first opportunity to see how test items work when attempted by students in assessment conditions. The focus at this stage is on individual items. Based on the results of the pilots, items are selected and/or refined prior to field testing.

Field Testing

The focus of field testing is broader. The processes at the field test stage are very similar to the full assessment, which provides an opportunity for in-depth analysis of assessment instruments and related materials; and procedures related to training, administration, scoring, data analysis and distribution and receipt of assessment materials.

Final Revisions

Before being used in the full administration, all test items undergo a thorough review, taking into account all available quantitative and qualitative information including feedback from teachers who participated in the field test. EQAO staff are supported by committees of educators in this review process. Any items that are revised after the field test are re-piloted to ensure that the revisions have had the desired impact and that they function as intended.

Monitoring and Quality Assurance Procedures

- EQAO quality assurance monitors make on-site visits to field test sites and record observations.
- Field test teachers record their ongoing reactions to administration directions and assessment materials and their observations on student reactions using a questionnaire and anecdotal comments.
- EQAO monitors marker training using questionnaires.
- The Technical Committee approves the final form of the assessment.
- The Validation Team validates the final form of the assessment.

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SAMPLE FIELD TEST TEACHER FEEDBACK FORM

Please use the chart below to reflect on the assessment tasks that you administered today and use the 4-point scale shown below to indicate the degree to which each of the components meets the criteria.

	1	2	3	4
Criteria	Mathematics Investigation #2: Tiles			
Indicate time required to complete the warm-up.	Time: _____			
How engaged were your students in the warm-up?	1	2	3	4
Did the warm-up involve skills that are appropriate for this grade level?	1	2	3	4
For each independent assessment activity, note the time it took for MOST students and ALL students to finish.	MOST Time: _____		ALL Time: _____	
How engaged were the students in the activity?	1	2	3	4
How meaningful and relevant was the activity to situations students face in the school and everyday life?	1	2	3	4

SAMPLE FIELD TEST TEACHER FEEDBACK FORM

Please use the chart below to reflect on the assessment tasks that you administered today and use the 4-point scale shown below to indicate the degree to which each of the components meets the criteria.

Not well at all	Not well	Well	Very well
1	2	3	4

Criteria	Mathematics Investigation #2: Tiles				
Indicate time required to complete the warm-up.	Time: _____				
How engaged were your students in the warm-up?	1 2 3 4				
Did the warm-up involve skills that are appropriate for this grade level?	1 2 3 4				
For each independent assessment activity, note the time it took for MOST students and ALL students to finish.	<table> <tr> <td>MOST</td><td>ALL</td></tr> <tr> <td>Time: _____</td><td>Time: _____</td></tr> </table>	MOST	ALL	Time: _____	Time: _____
MOST	ALL				
Time: _____	Time: _____				
How engaged were the students in the activity?	1 2 3 4				
How meaningful and relevant was the activity to situations students face in the school and everyday life?	1 2 3 4				

**THE ASSESSMENT
PROCESS AT A GLANCE
(FROM THE
ADMINISTRATION GUIDE)**

***Before Administering
the Assessment Unit***

- Receive and distribute materials
- Communicate with parents
- Start accommodations and exemption process
- Complete *Class Tracking Sheet*
- Begin to complete *Student Information Forms*

***Administering the
Assessment Unit***

- Follow the *Teacher's Daily Plans*
- Integrate assessment activities
- Five days (approximately 2.5 hours each day)

***After Administering the
Assessment Unit***

- Return materials to EQAO

Stage Three: Administration

The Grade 3 and Grade 6 assessments take place over a three-week period in May. Teachers follow procedures outlined in the *Administration Guide* and *Teacher's Daily Plans*.

School boards are responsible for training teachers in their schools to administer the assessment consistently.

EQAO communicates with educators, parents and other stakeholders using a variety of media, including the *Parent Handbook*, its Web site, video and regular newsletters.

Following EQAO's policy, teachers determine student accommodations and exemptions.

Monitoring and Quality Assurance Procedures

Quality assurance procedures are in place to ensure that all assessment materials meet EQAO specifications.

EQAO monitors teacher training to administer the assessment.

EQAO makes on-site visits to 10% of the classrooms in the province.

"The organization for this assessment was outstanding. The Principal believes the entire school has a responsibility for this assessment — not just the Grade 3 teachers. As a result, there is much cooperation and support among teachers."

— Quality Assurance Monitor

QUALITY ASSURANCE SURVEY

EQAO conducted a Quality Assurance survey of teachers responsible for the administration of the assessment to determine the effectiveness of their training to deliver the assessment. Questionnaires were mailed to a sample of 400 Grade 3 and 400 Grade 6 teachers.

Some highlights from the survey

- There continues to be a considerable turnover of teachers in Grades 3 and 6, as suggested by the fact that 34% of those who responded to the Quality Assurance survey indicated they were administering an EQAO assessment for the first time.
- Forty-two percent of respondents received no training to prepare for the administration of the assessment. However, only 7% of those administering the assessment for the first time received no training.
- Most teachers (88%) reported being very or generally confident in their ability to administer the assessment. Many volunteered, however, that their confidence was based on previous experience and on informal discussion and advice received from colleagues, rather than on the training session.
- Training did not appear to prepare teachers effectively to make decisions about either exemptions or accommodations for their students. Only 35% indicated that they felt very well prepared to make these decisions. Twenty-two percent reported being only somewhat, or not very, confident about decisions on exemptions, and 19% were only somewhat, or not very, confident about decisions regarding accommodations. [EQAO is taking steps to review its general policy on accommodations and exemptions as outlined in the *Administration Guide for Teachers and School Principals*.]

ADMINISTRATION OF THE ASSESSMENTS

Quality assurance monitors visited more than 300 schools selected randomly in locations across the province.

Some highlights

- In 94% of the classes visited, students were reported to be generally or very positive about the assessment.
- In 98% of schools, classrooms were arranged in such a manner that students could work individually or in groups when necessary.
- In 97% of classes visited, the assessment proceeded in an orderly and systematic manner.

Tests Teachers Want to Mark

Excerpted from "Tests Teachers Want to Mark" by Chinta Puxley, *The Hamilton Spectator*, July 13, 2000. Used by permission of *The Hamilton Spectator*.

While the process is complex, thousands of full-time teachers are vying to participate because it helps them understand the new curriculum and the tests.

Daily at 8:30 a.m. the markers go through a security station where officers — hired to limit access to the building — scrutinize their passes.

They undergo an elaborate two-day training process and mark booklets that are traced by a bar-code system. The identities of both the student and the school are kept secret.

John Ross, head of the Ontario Institute for Studies in Education site in Peterborough, said the educational standards teachers once relied upon have been made obsolete by the new curriculum.

Expectations have changed and many teachers are trying to adjust. Ross said marking the standardized tests helps teachers do that.

"What they get is clarity," he said. "It helps them focus their instruction. They can also talk to their fellow teachers and get feedback on what kids are supposed to do."

Stage Four: Marking

The written components of EQAO assessments are scored holistically. This includes the use of assessment scales based on the Ontario Curriculum Achievement Scales and anchor booklets that represent student achievement at each of the four levels.

Teachers and principals from all parts of the province apply to be markers. Marking takes place at several regional sites.

Markers are trained by EQAO staff to score student booklets accurately and reliably.

Monitoring and Quality Assurance Procedures

Various reliability checks are embedded in the marking process. The checks include

- questionnaires administered to markers during the training to monitor level of understanding;
- orientation booklets completed each morning before marking begins;
- paired markings;
- reliability booklets completed each afternoon; and
- calibration booklets (a random selection of students' booklets re-marked each day).

QUALITY ASSURANCE SURVEY OF TEACHERS

Nearly all markers reported that the marking experience was excellent professional development and would have an impact on their classroom practice. Some examples of their comments:

"Thank you for the wonderful opportunity to gain professional development, make contact with other qualified teachers and understand where children required further practice. It was a great experience."

— Marker of Grade 6 Math Investigations

"Thank you for the enriching experience. Networking among teachers was most useful. It was the best professional development I have had."

— Marker of Grade 3 Math Strands

"I will take a wealth of insight and greater understanding and confidence back to my school — and hopefully put it into practice to benefit students."

— Marker of Grade 6 Writing

"I feel much more confident that I will be able to address some of the issues/problems that many of my students have in reading. Thanks for the great learning experience."

— Marker of Grade 3 Reading

Stage Five: Reporting

Four different kinds of reports are released following each assessment.

Individual Student Reports

EQAO generates an *Individual Student Report (ISR)* for every student who participates in the Grade 3 or Grade 6 assessment. The *ISR* provides students, parents and teachers with detailed information about each student's achievement on the assessment in three subject areas across 17 categories and strands. EQAO arranges for the report template to be translated into several languages and makes copies of translations available to school boards.

Number of *ISRs* generated for the 1999-2000 assessments: 294,137

Number of *School Reports* generated: 3,540

Number of *School Board Reports* generated: 83

School Reports and School Board Reports

Schools and school boards are required to prepare their own reports for the Grade 3 and Grade 6 assessments. EQAO provides schools and school boards with achievement and questionnaire data to include in their reports. The process of developing a school or school board report provides an excellent opportunity for teachers, principals, parents and community members to meet and discuss their interpretations of the assessment results and to determine what can be done at school and in the home to improve learning. School and school board reports allow staff to share specific information on demographics, programs, policies and teaching strategies with parents and the local community. They also contain an Action Plan for Improvement that helps to focus the attention and guide the efforts of teachers and parents. Every year, EQAO publishes a reporting protocol to ensure consistency in how and when school and school board results are released to parents and the public. Schools and school boards are also required to make copies of their Action Plans for Improvement available March 12, 2001.

Provincial Reports on Achievement

The *Provincial Report on Achievement* is published annually. It features results from the province-wide assessments conducted during the previous year and summarizes data gathered from student, home, teacher and principal questionnaires. It also provides information on how Ontario students performed in national and international assessments. The *Provincial Report on Achievement* contains subject-specific recommendations for all members of the educational community, including students, parents, teachers, principals, schools, communities, school boards, faculties of education, the Ontario College of Teachers and the Ministry of Education.

Monitoring and Quality Assurance Procedures

EQAO has data management procedures in place to ensure data are recorded and correctly attributed to individual students, schools and school boards. EQAO has procedures in place for requesting and conducting a review of individual student results when requested.

Monitoring Assessment Compliance

EQAO staff and data analysts are trained to detect irregularities in the administration and/or marking stages of the assessment that may require further investigation and action. These problems may have been identified either during the administration of the assessment, during the marking or during the subsequent data analysis process. EQAO also follows up on any irregularities that are reported to the office.

EQAO investigates any reported irregularities with school and school board officials. Depending on the severity of the situation, EQAO may have to deem the results of an individual, class or school to be invalid.

Selected Samples of Student Work

The following samples of assessment materials and student responses provide a brief look at the type of reading and writing students were expected to do and the types of reading and mathematics questions students were expected to answer. The student responses were selected from the Grade 3 and Grade 6 Level 3 anchor booklets, which were used to train teachers to mark the assessments.

Sample Reading Passage, Questions and Level 3 Student Answers

LEVEL 3 READING ASSESSMENT SCALE FOR GRADE 3:

Reasoning

Demonstrates general understanding by using ideas of some complexity, beginning to make inferences and responding with information that is consistently related to the text.

Communication

Demonstrates the ability to use ideas in different contexts by clearly and precisely supporting them with personal knowledge/experience.

Organization of Ideas

Demonstrates general understanding of different forms of text by identifying the use of characteristics and organizational elements of some complexity.

Application of Language Conventions

Demonstrates general understanding of most of the required conventions by correctly identifying and explaining their use.

LEVEL 3 READING ASSESSMENT SCALE FOR GRADE 6:

Reasoning

Demonstrates general understanding by using ideas of some complexity and responding with some complex information that is consistently related to the text.

Communication

Demonstrates the ability to interpret by clearly and precisely connecting appropriate textual references to personal knowledge/experience.

Organization of Ideas

Demonstrates general understanding of different forms of text by identifying the use of characteristics and organizational elements of some complexity.

Application of Language Conventions

Demonstrates general understanding of most of the required conventions by correctly identifying and explaining their use.

Students were required to read a number of different types of passages and answer a variety of questions.

Note: Markers were assessing reading skills, not writing skills, in this section of the assessment.

Grade 3 Reading

Try It!

Make Moon spots

You'll need:

- a dark room
- ten small building blocks
- a flashlight



1. In the dark room stand your blocks on a table, leaving spaces between them.
2. Stand back and shine your flashlight on the blocks from about 30 cm away. Look at the shadows the blocks make.

When you shine your flashlight on the blocks, you can see them clearly. That's because the blocks reflect the light. The mountains on the Moon do the same thing and when you look through a telescope at the Moon you see light spots.

On the far side of the blocks you can see shadows. On the Moon the mountains cast long shadows onto the flatlands. Those shadows are the dark spots you see when you look at the Moon through a telescope.



(Excerpt from a longer passage)

The Moon: Earth's Nearest Neighbour

1. On page 13 in this article about the moon, the heading is Try It!

This mark I is called an exclamation mark.

Explain why the author used this mark I at the end of the heading.

The used this mark because the person that is saying it is saying it with excitement!
That is what an exclamation mark is.

2. Turn to the Try It! experiment on page 13 in your magazine. What does this experiment teach you about the Moon?



It teaches you why there are dark and light spots on the moon. It also teaches you why there are moon craters.

3. On page 13, the author has included an experiment. Explain how doing an experiment after reading an article helps you understand what you are reading.



It helps you understand what you are reading because you get to kind of see what you are reading and it gives you an idea.

4. The author uses questions as headings. Explain why she does this.



The author did that because the still under the headings will answer the question.

Grade 6 Reading

A summer job that's hard — and fun

HEARST, Ont. —

Throughout my first week of tree planting I kept thinking to myself, "Oh my, this is the most outrageous thing I've ever done."

After six weeks on the job, the same thought still crosses my mind. However, I've come to realize that this experience is as worthwhile as it is hard.

My brother Andrew and I decided to give the job a try, in spite of hearing the horror stories. Hard work. Broken-down bodies. Treacherous weather. Time and time again we were told, "Hey, you're going tree planting!"

Mind you, anyone who had actually experienced planting would beam a little and say, "Wow! You're going to have a great time. Right on!"

So here we are near Hearst — a 12-hour bus ride north of Toronto. We are part of a camp of 45 people, divided into three crews and supervised by three crew bosses. We wake up at 6 a.m., start planting at 7:30 a.m., return to camp at 7 p.m., eat dinner and crash into bed by 9:30 p.m.

Day in, day out. Six days a week. Such a timetable makes the work sound monotonous. It's anything but.

As rookies we learned there is more to tree planting than putting seedlings into holes in the ground. We learned what types of trees go in what soil, how to plant the seedlings at the correct depth so their delicate roots are not exposed, how to cut a proper hole in the ground with the special shovel, how to close the hole correctly, and where not to plant.

The list is lengthy and important because our skill is constantly being assessed by the forest management company. They only pay us if we get it right.

I spent most of the first week replanting and correcting mistakes I'd made. Since we are paid per tree, replanting has no financial benefit — for us or for the crew boss. However, after the second grueling week, I actually started to make money.

(Excerpt from a longer passage)

- 2 If you had to write an information pamphlet for new tree planters, what three topics would you include? Give reasons for your choices.



The first topic would be how much fun you can have because if you are getting paid to have fun then you would want to continue working there. The second topic would be about how you are helping the environment because you would want to have less pollution. The third topic would be about the hard work because if you say it will only be fun that would be a lie.

- 3 Do you think that reading "A summer job that's hard — and fun" would help a person make a decision about working as a tree planter? Explain why or why not.



I think it would tell a person to be a tree planter or not because obviously if you are an outdoor person you'll love the nature and working outdoors and stuff. If you are not an outdoor person and you don't like getting bushes, bushes and stuff then you probably won't want to be.

Reading - Tree Planting

Grade 6 Assessment of Reading, Writing and Mathematics 1999-2000

- 4 The words **return** and **discomfort** have prefixes. Write the prefix for each word.

return _____

discomfort _____

How do these prefixes help you understand the meanings of the words?

Well, **re** usually means **back** so **return** is telling you back. Also **discomfort** means the opposite of the word. It is **in** front of the **discomfort** means it is uncomfortable.

- 5 Read this sentence from "A summer job that's hard — and fun."

"Just a note about eating. In restaurants, individual servings are calculated for 1.5 people; at a tree planting camp, the cooks deliver each portion as if you were 2.5 people."

Explain why the author uses a colon after the word **eating**.

The author uses a colon after the word **eating** because after the word **eating**, he is listing places and amount of food.

Student Reading Booklet - 21

Reading - Tree Planting

Tree Planting - continued

- 8 Writers of non-fiction articles use organizers to help readers understand the information. Explain how the organizers on the chart below can help readers. Add your own organizer in the blank space and explain it.

Organizer	Helps the reader by
1. table of contents	telling what information is in the article
2. subtitles	tells even more about the topic than the title
3. diagrams	pictures to give visual aid
4. glossary	A list of words from the story and they tell you what they mean
5. paragraphs	tells when one idea ends and another begins

- 9 In "A summer job that's hard — and fun," the writer ends by saying,

"I plan to be here again, even though it's one of the most outrageous things I've ever done."



Explain the statement using evidence from the article and your own ideas.

The statement above means that she plans to go there next year even though it was the most wild, adventurous, most tiring thing she had ever done and that she loved it.

Reading - Tree Planting

Grade 6 Assessment of Reading, Writing and Mathematics 1999-2000

Sample Writing Prompt and Level 3 Student Response

**LEVEL 3 WRITING ASSESSMENT
SCALE FOR GRADE 3:**

Reasoning

Demonstrates reasoning by using ideas of some complexity that are clearly related to the purpose of the task and to each other.

Communication

Writes with clarity and demonstrates a sense of voice and audience by using a range of writing techniques related to the form of the task.

Organization of Ideas

Shows evidence of a logical plan and/or focus by organizing ideas and information using appropriate, logical connections.

Application of Language Conventions

Shows application of language conventions by demonstrating general accuracy in spelling, grammar and punctuation.

**LEVEL 3 WRITING ASSESSMENT
SCALE FOR GRADE 6:**

Reasoning

Demonstrates reasoning by using ideas of some complexity that are clearly related to the purpose of the task and to each other.

Communication

Writes with clarity and demonstrates a sense of voice and audience by using a range of writing techniques related to the form of the task.

Organization of Ideas

Shows organization and focus by developing ideas and information using appropriate and logical connections.

Application of Language Conventions

Shows application of language conventions by demonstrating general accuracy in spelling, grammar and punctuation.

Note: Although both the Grade 3 and Grade 6 writing samples contain a few errors in spelling and grammar, both demonstrate "general accuracy" in application of language conventions.

Grade 3 Writing

Letter



There is a contest to choose a Grade 3 student who will travel with astronauts on a trip to the moon. Write a letter to the astronaut captain telling why you should be chosen to go on the moon trip.

Student Writing Sample - 12

Think:
Think about questions like these:

- Why should you be chosen?
- What do you know about the moon and space?
- How could you help?
- What might you do on the trip?

Write:
a letter to the captain of the astronaut team telling why you should be chosen to go on the moon trip.

Remember:
This is a final copy.

- Write on every other line.
- You must edit your own letter.

Check:
Check your final copy carefully for:

- correct letter format
- complete sentences
- missing words
- correct spelling and punctuation

Grade 3 Achievement in Reading, Writing and Mathematics 1999-2000

Dear Captain Kirk: ^{Wednesday May 12th 2000}

My name is Kate and I really want to go to space with you. I could take care of anything or anybody that will or should get hurt. I know that there are mountains on the moon. I know that there are holes in the moon. I want to

Student Writing Sample - 12

Jump on the moon.

I really want to get on top of one of the mountains. I want to get in a rocket and feel everything. I really want to go to space in a rocket please please please Captain Kirk.

Your Friend,

PS I'm the portable doctor!

Grade 3 Achievement in Reading, Writing and Mathematics 1999-2000

Grade 6 Writing

The Task:

The principal has asked the Grade 6 students to write an article for the school newsletter stating their opinion on which plan the school council should pick. The school newsletter will be sent home with all students.

Choose Plan A or Plan B and give reasons for your choice.

Your article should persuade readers to agree with your opinion.



**Begin your plan
on the next page.**

Student Writing Sample: 20

Writing

Writing An Opinion Piece

The purpose of this piece of writing is for you to **present and support your opinion** (argue logically with reasons) and to convince others of your way of thinking.

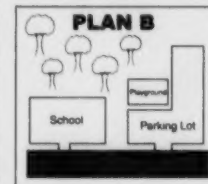
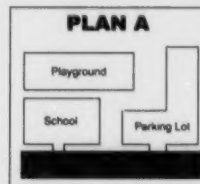
You will have time to plan, discuss and develop a draft copy and then revise and edit it for your final copy.

The Situation:

The school council plans to build a playground⁴ for your school. There are two possible places to build it.

Plan A allows for a large playground, but many trees would have to be removed.

Plan B allows for a smaller playground, but no trees would have to be removed. However, Plan B places the playground next to the parking lot.



Writing

Grade 6 Assessment of Reading, Writing and Mathematics: 1999-2000

Writing an Opinion Piece

Final Copy

Title: Playground Frenzy

Plan A or B, that is the question. Which is better for your children? I think plan B is the answer and here are my reasons.

IF we choose plan A we leave the trees, but in plan A we cut the trees down. So by leaving the trees and the space around them it gives the children room to play, foster, hide and go seek and

tags

Student Writing Sample: 21

Writing

Or some children may want to lay in the grass under a big tree.

We do not need a huge playground because not all children will want to play the playground at once. After a while some children will get bored on the playground and resort to playing near the trees anyway.

In plan B the children

Writing

Grade 6 Assessment of Reading, Writing and Mathematics: 1999-2000

can see what is going on in
the neighborhood around the school
while playing on the playground, but in
plan A all they see is the back
of the school. I note that
some people think this is unsafe
to have the playground so close to
the parking lot and road, but we
can put a fence that children
won't climb between the playground

Student Writing Sample - 12

and the parking lot.

Another point is that when
teachers are supervising the
yard they would be able
to see the playground from
the yard and the trees
from the playground.

All in all I think we
should pick plan B. We may
have a smaller playground

Grade 6 Assessment of Reading, Writing and Mathematics 1999-2000

and that's all right, because plan
B is better for the children,
the teachers and it leaves the
trees and the open space for
children to run and play.

YES PLAN B IS THE
BEST!

STOP

Student Writing Sample - 12

Sample Mathematics Questions from Each of the Five Strands and
Level 3 Student Answers

LEVEL 3 MATHEMATICS ASSESSMENT
SCALE FOR GRADE 3:

Demonstrates and communicates general knowledge and understanding. Uses most required concepts and procedures by consistently choosing, applying, explaining and justifying appropriate operations, procedures and problem-solving strategies to complete tasks with overall accuracy, clarity and precision.

LEVEL 3 MATHEMATICS ASSESSMENT
SCALE FOR GRADE 6:

Demonstrates and communicates general knowledge and understanding. Uses most required concepts and procedures by consistently choosing, applying, analyzing and justifying appropriate operations, procedures and problem-solving strategies to complete tasks with overall accuracy, clarity and precision.

Strands

- Number Sense and Numeration
- Geometry and Spatial Sense
- Measurement
- Patterning and Algebra
- Data Management and Probability

Note: Markers were assessing mathematics skills, not writing skills, in this section of the assessment.

Grade 3 Mathematics

Number Sense and Numeration

5. Pine cones are collected for their seeds. Each year the number of pine cone seeds are counted. The results are shown in this chart:

Year	Number of Seeds Collected
First year	361
Second year	402
Third year	391
Fourth year	32
Fifth year	87

List the numbers of seeds from the smallest number to the largest number.

32 87 361 391 402

Put the two smallest numbers from the chart in the correct place on the number line below.



Grade 3 Mathematics Sample Questions - 22

Mathematics • Number Sense and Numeration

6. Look at the chart in question 5 that shows the number of seeds collected. Circle the statement below that best describes the estimated total for all 5 years of collecting seeds.

Circle one:

The total would be more than 1000 seeds.

The total would be less than 1000 seeds.

Tell how you made your estimate.



Explain your thinking.

I made my estimate by looking at the hundreds of each number then I added the hundreds.

300
400
100
1000

Mathematics • Number Sense and Numeration

Grade 3 Mathematics Sample Questions - 23

Geometry and Spatial Sense

3. Look at this word:

SPACE

Which letters in the word have lines of symmetry?

A C E

4. Name one other letter in the alphabet that has a line of symmetry:

M

How do you know this letter has a line of symmetry?

Because if you fold the letter in sideways it's equal.

Mathematics • Geometry and Spatial Sense Grade 2 Assessment of Reading, Writing and Mathematics (1999-2000)

6. The astronaut is collecting moon rocks. Help the astronaut get back to the rocket ship. Find the shortest way along the lines on the grid. Write the moves here:

Go right 3 past 2 E and 2 F and stay on 2 E

Go up 5 past 3 E, 4 E, 5 E, 6 E and stay on 7 E and that's where your space ship is. That's the shortest route because it's 8 units.

Mathematics • Geometry and Spatial Sense Grade 2 Assessment of Reading, Writing and Mathematics (1999-2000)

Measurement

2. Here is a field for planting your new trees.

Field

Legend:
 ■ planted
 □ not planted

1 unit = 1 unit

You want to put a fence around the part of the field that is planted.
 How long does the fence need to be?

Show your work:

The fence needs to be 16 units long.

Mathematics • Measurement Grade 2 Assessment of Reading, Writing and Mathematics (1999-2000)

5. Here are some units of measure.

kilogram (kg)
 kilometre (km)
 centimetre (cm)
 metre (m)
 millilitre (ml)

Which unit is best for measuring:

the height of a flower? centimetre

how far it is to the forest? kilometre

the perimeter of a pond? metre

the weight of a big rock? kilogram

the amount of juice? millilitre

Mathematics • Measurement Grade 2 Assessment of Reading, Writing and Mathematics (1999-2000)

Patterning and Algebra

Patterning and Algebra

1 Sam and her friends collected pine cones each day. They noticed a pattern. Complete the 4th and 6th days on the chart to show the pattern.

Day	Cones Collected	
	Number	Picture of Number
1st day	6 pine cones	
2nd day	6 pine cones	
3rd day	8 pine cones	
4th day	11 pine cones	
5th day	15 pine cones	
6th day	20 pine cones	

Mathematics • Patterning and Algebra

Grade 1 Assessment of Reading, Writing and Mathematics • 180-200

2 Look at the chart in question 1.
On what day would Sam and her friends collect 33 pine cones?

Show your work:

They would collect 33 cones on the 8th day.

Mathematics • Patterning and Algebra

Grade 1 Assessment of Reading, Writing and Mathematics • 180-200

Data Management and Probability

2 Last summer the naturalist led activities in the forest. She kept a chart for forest activities.

Weekly Record Chart

Day of the Week	Number of People	Activity	Weather
Monday	65		
Tuesday	68		
Wednesday	10		
Thursday	11		
Friday	63		
Saturday	99		
Sunday	94		

Legend:

- sunny
- rainy
- canoeing
- birdwatching
- walking

Estimate how many people will visit on Wednesday. Write your estimate on the chart.

Explain why the number of people is higher on some days and lower on others.

The amount is higher because it is sunny and people like sun.

The amount is lower because it's rainy and people don't like rain.

Mathematics • Data Management and Probability

Grade 1 Assessment of Reading, Writing and Mathematics • 180-200

Grade 6 Mathematics

Number Sense and Numeration

2. a) Complete the chart to show how many trees Dody and Mona planted on Wednesday.

Number of Trees Planted on Wednesday

Time	Dody	Mona
1 hour	15 trees	25 trees
2 hours	30 trees	50 trees
3 hours	45 trees	75 trees
4 hours	60 trees	100 trees
5 hours	75 trees	125 trees
6 hours	90 trees	150 trees
7 hours	105 trees	175 trees
8 hours	120 trees	200 trees
9 hours	135 trees	225 trees

Mathematics • Number Sense and Numeration

Grade 6 Measurement of Length, Weight and Temperature: 1000-06

- b) On Wednesday, 6 planters will be working for 9 hours. Think about the number of plants that Dody and Mona planted in 9 hours. Estimate how many plants the crew boss needs to have available to keep all 6 planters busy on Wednesday.



Show your work and explain your method.

$$(135 + 225) \div 2 = 180$$

$$180 \times 6 = 1080$$

The crew boss needs to have 1080 plants to keep all planters busy on Wed.

3. Look at the chart in 2a)

Compare Dody's numbers to Mona's in each row.

What fraction best describes Dody's rate of planting trees compared to Mona's rate?

$$\frac{4}{5}$$

$$\frac{3}{5}$$

$$\frac{2}{5}$$

Circle an answer and explain your choice.

Dody planted just over half of what Mona planted. That is how I got my answer.

Student Mathematics Grade 6 Booklet • 23

Mathematics • Number Sense and Numeration

4. If planters are paid \$1.85 for every tree planted, how much did Dody earn on Wednesday?

Use the information from the chart in 2a) to help find your answer.

Show your work.

$$135.00 \text{ trees planted} \\ \times \$1.85 = \text{money paid for every tree} \\ \$249.75$$

Dody earned \$249.75 on Wednesday.

Mathematics • Number Sense and Numeration

Grade 6 Measurement of Length, Weight and Temperature: 1000-07

Geometry and Spatial Sense

Geometry and Spatial Sense

1. This drawing shows the top of a drum.
Part A shows the artist's original drawing of an animal.
Part B, C and D are transformations.
Describe the transformations. Be sure to include detail such as the type of transformation, number of units, direction, turn, etc.

a) from A to B
The type of transformation from A to B is a slide 13 Right.

b) from B to C
The transformation from B to C is a flip down over the dark line.

c) from C to D
A turn 90° from the back foot clockwise then a slide 7 left, 1 up.

Measurement

Measurement

1. The tree planters travelled by bus for 13 hours from Toronto to Hearst, including stops. They left at 7:30 a.m. or 07:30.

What time will they arrive in Hearst? Record your answer in both 12-hour and 24-hour clock notation.

Show your work.

7:30 a.m.	7:30 p.m.
1:45 p.m.	8:00 a.m.
2:45 p.m.	9:00 a.m.
3:10 p.m.	10:00 a.m.
4:11 p.m.	11:00 a.m.
5:11 p.m.	12:00 p.m.
6:11 p.m.	1:00 p.m.
7:11 p.m.	2:00 p.m.
8:11 p.m.	3:00 p.m.
9:11 p.m.	4:00 p.m.
10:11 p.m.	5:00 p.m.
11:11 p.m.	6:00 p.m.
12:11 p.m.	7:00 p.m.
13:11 p.m.	8:00 p.m.

12 hour clock: 8:30 p.m.
24 hour clock: 20:30

2. The bus ticket costs \$90 plus 8% sales tax. A planter bought a ticket using one \$50 bill and three \$20 bills.

How much change should the planter get?

Show your work.

Ticket costs \$90.00
Sales tax \$9.00
Total \$99.00

1-\$50 \$50
3-\$20 \$60
Total \$110.00

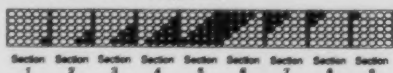
\$110.00
-\$99.00
\$11.00

I calculated the total ticket price and the amount of money a planter paid. I subtracted and then I got the answer.

The planter should get \$11.00 in change.

Patterning and Algebra

1. Here is a bracelet that archaeologists found.



Use the chart to record the number of black and white beads that make up each section of the bracelet.

Section Number	Number of Black Beads	Number of White Beads
1	1	24
2	3	22
3	6	19
4	10	15
5	15	10
6	10	15
7	6	19
8	3	22
9	1	24

Mathematics • Patterning and Algebra

Grade 5 Assessment of Reading, Writing and Mathematics - 1999-2000

2. Look at both the picture of the bracelet and the chart. Describe the pattern made by the black beads.



Explain your thinking.

You have to add 2, then 4, then 5, then subtract 5, 4, 3, 2.

Student Mathematics Record Booklet - 23

Mathematics • Patterning and Algebra

Data Management and Probability

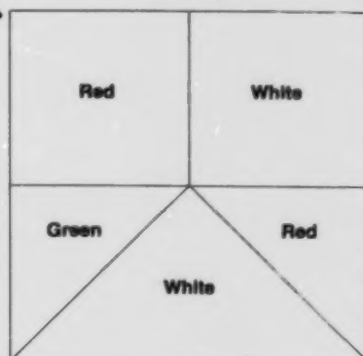
Kris and Lynn played a game at the school fun fair.

Players closed their eyes and tossed a sunflower seed onto the square game board shown below.

If the sunflower seed landed on a line, the player tossed again.

sunflower seed

Game board



Mathematics • Data Management and Probability

Grade 5 Assessment of Reading, Writing and Mathematics - 1999-2000

1. What is the probability of the sunflower seed landing in the Green section?



Explain your thinking.

$\frac{1}{8}$



You can split Red and white in half
3 red + 4 white + 1 green = 8 = 1 green over 8

2. Kris tossed first and her sunflower seed landed on White. What is the probability that Lynn's sunflower seed also landed on White on her toss?

The probability that Lynn's sunflower seed landed on White is:
is 4 out of 8

Explain why: their is one white square
split in half = 2 and the triangle
white split in 2 Red in half + white
in half = 1 green + 1 red and two
more white = $\frac{4}{8}$

Student Mathematics Record Booklet - 23

Mathematics • Data Management and Probability





The Grade 3 and the Grade 6 Assessments of Reading, Writing and Mathematics, 1999-2000

The Grade 3 and Grade 6 assessments are conducted annually in every publicly funded Ontario elementary school. They measure how well students have met the provincial expectations in *The Ontario Curriculum, Grades 1-8*. Each assessment covers knowledge and skills in reading, writing and mathematics that students are expected to have acquired by the end of the grade.

The two assessments are administered in May. They both involve students for five days, two and a half hours each day. In both grades, students complete introductory activities with their classmates and teacher, and then work independently to solve problems, write their responses and answer multiple-choice questions.

This year, the assessments both focused on a concept: the Grade 3 assessment on *Change*, the Grade 6 assessment on *Perspectives*. They encouraged students to explore and investigate various aspects of change and perspectives.

The assessments were developed and marked by teams of specially trained classroom teachers and principals.

During the Assessment

In reading, students demonstrated their knowledge and skills by reading a variety of materials, including factual information, stories and poetry. The reading components of the assessments measured how well students could use various reading strategies and conventions and how effectively they could understand concepts, make inferences and connect ideas.

In writing, students demonstrated their knowledge and skills by using a range of forms and by writing for different purposes. The writing components of the assessments measured how well students could use writing strategies and language conventions and how effectively they could understand assigned tasks, organize ideas and communicate with a reader. During the Grades 3 and 6 assessments, students produced two pieces of written work. They also selected a third writing sample from their work completed earlier in the year.

In mathematics, students demonstrated their knowledge and skills by solving problems, applying procedures and explaining how they arrived at their answers. In addition to measuring how well students could use mathematical concepts and procedures, solve problems and communicate their knowledge, the mathematics components of the assessments also tested students' knowledge and skills within the five strands of mathematics: Number Sense and Numeration, Geometry and Spatial Sense, Measurement, Patterning and Algebra, and Data Management and Probability.

Students with Special Needs

All Grade 3 and Grade 6 students are expected to participate in the assessments. In specific circumstances, EQAO allows teachers to provide certain kinds of assistance to students with special needs. In rare instances, a student may need to be exempted from participating in part or all of an assessment. Before granting an exemption, the principal must consult with the student's teacher and parents and obtain written parental consent.

Students identified as *Receiving Special Education Support* include those students whose *Student Information Form (SIF)* indicated that they were formally identified by an Identification, Placement and Review Committee (IPRC), as well as those students who were not formally identified, but who received special education support. Unless otherwise stated, students in gifted and enrichment programs are excluded from this group.

Assessment Results

Overall and Detailed Results

EQAO reports results that provide an overall, as well as a detailed, picture of Grade 3 and Grade 6 student achievement in reading, writing and mathematics.

Each subject area of the assessment contains a written response section as well as a multiple-choice section. Both sections are based on the language and mathematics expectations outlined in *The Ontario Curriculum, Grades 1-8*. The written response section of each assessment is organized and marked by trained teachers according to the four categories outlined in the curriculum for each subject. In mathematics, students receive results on each of the five mathematics strands in addition to the four categories. The multiple-choice sections are mechanically scored.

The overall results for each subject are derived by combining the detailed results from the written response section for each subject with the results from the multiple-choice section. For reading and writing, the overall result is derived from the data from five sources (four categories and one multiple-choice section). For mathematics, the overall result is derived from ten sources (four categories, five strands and one multiple-choice section).

Levels of Achievement

EQAO reports on student achievement in reading, writing and mathematics using a four-level scale, derived from *The Ontario Curriculum, Grades 1-8*, which sets Level 3 as the standard. Markers are trained to assess student written work according to these four levels and the multiple-choice score is also aligned to these levels.

NE Level 1

This year, EQAO has aligned its four-level marking scale with the four-level scale used on the Ontario Student Report Card. For EQAO, this has required the addition of a new reporting designation for students who have provided enough information to score, but have not demonstrated enough evidence of knowledge and understanding to be assigned Level 1. This additional designation is referred to as NE Level 1, or Not Enough Evidence for Level 1.

Other Designations

Insufficient Information to Score (IIS)

This designation is for student work that is deemed to be insufficient to be given a level of achievement, in any given category or strand within a subject, or on the multiple-choice component, or for overall achievement. This is the case if large sections of work are missing due to absence or other reasons.

Exempt and No Data

These designations include students who were formally exempted from participation in one or more components of the assessment, and non-exempt students from whom EQAO did not receive completed assessment booklets.

Comparing Assessment Results

With the publication of this report, educators, parents, policy-makers and members of the public now have three years of Grade 3 achievement data and two years of Grade 6 achievement data based on the current curriculum expectations. They also have three years of contextual data from the questionnaires that students, teachers, principals and parents completed during the assessment.

With this data it is possible to look at some important trends over time. However, it is important to emphasize that some comparisons are valid and meaningful and others should be avoided.

EQAO assessments combine performance-based activities requiring written responses with multiple-choice questions. This combination

allows students to demonstrate both depth and scope in their learning, as well as providing a variety of ways to demonstrate their learning.

On the other hand, modifications and refinements in the design and marking of the performance-based component of the assessment create potential sources of variation in year-to-year results for the category/strand scores that markers assign to this portion of the assessment. This means that the category and strand scores are not directly comparable from year to year. However, it is useful each year for school boards to analyze their category/strand results in terms of the provincial results and for schools to analyze their results in terms of both the provincial and school board results to gain a picture of strengths and weaknesses in their students' achievement relative to the larger population.

Year-to-Year Comparability

The overall levels of achievement are comparable from year to year. The method EQAO uses to calculate the overall levels of achievement in reading, writing and mathematics allows us to calibrate those scores so that they are reported on the same scale from one year to the next.

The multiple-choice component of the assessment includes overlapping questions from year to year. These questions are not subject to change in either difficulty or marking. The analysis of student responses to these common questions from the previous year indicates if there are any changes in student performance. This information, along with the distribution of scores from the previous years, provides a mechanism for measuring year-to-year consistency and a basis for adjusting results where necessary to ensure year-to-year consistency.

EQAO has refined the process of combining information from the performance-based and multiple-choice sections of the assessment. There are several steps in the process:

1. The multiple-choice scores are aligned to the four-point reporting scale.
2. Category, strand, and multiple-choice level scores are then tallied into a total score.
3. Total scores are then reconfigured back into an overall level score from NE Level 1 to Level 4, using a score range established for each level. (For example, in Reading, a total score of 17 is in the range of achievement for Level 3.)

The establishment of a score range permits the calibration of scores to adjust for variances in the content and marking of the assessment. As a result of this calibration process, it is possible to make adjustments to ensure that the overall scale is constant from year to year. For example, an overall Level 3 on the assessment means the same thing from year to year.

Examining Grades 3 and 6 Results

The Grade 3 and Grade 6 reading, writing and mathematics results are presented together to provide a sense of the patterns in each subject that extend across the two grades. Taken together, these results from the two assessments (both the achievement data and the data from the various questionnaires) are clarifying and enhancing the emerging picture of student achievement within the context of the classroom, school and home-learning environments.

Note: The data published in this report are based on available results as of October 13, 2000. For the most recent results, please visit our Web site, www.eqao.com.

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Results At A Glance



Method 1

In Method 1 all data are reported. Method 1 expresses the number of students achieving at each level as a percentage of all of the students in the grade, including students who were exempted and those who took part in the assessment but did not produce enough work to be scored.

Method 1 is EQAO's primary method of reporting because publicly funded schools are accountable for the achievement and progress of all students. Schools and school boards are required to use this method to ensure consistency of reporting across the province.

Due to rounding, percentages may not always total 100.

Overall scores are adjusted for year-to-year differences in assessments.



Method 2

Method 2 is an alternative way of presenting the data. Method 2 expresses the distribution of student results as a percentage of those students who actually took part in the assessment and produced work that could be scored. Students who were exempt, or for whom we have no performance data, are excluded.

Method 2 highlights the results achieved by students who have scorable work.

Overall Level of Achievement in Reading — Grade 3

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of reading skills	Demonstrates some knowledge, understanding and application of reading skills	Demonstrates general knowledge, understanding and application of reading skills	Demonstrates thorough knowledge, understanding and application of reading skills
Method 1	8	< 1	5	< 1	8	30	43	6
Method 2	N/A	N/A	5	< 1	9	32	47	6

Overall Level of Achievement in Reading — Grade 6

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of reading skills	Demonstrates some knowledge, understanding and application of reading skills	Demonstrates general knowledge, understanding and application of reading skills	Demonstrates thorough knowledge, understanding and application of reading skills
Method 1	6	< 1	5	< 1	8	31	42	8
Method 2	N/A	N/A	5	< 1	8	33	45	9

Overall Level of Achievement in Writing — Grade 3

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of writing skills	Demonstrates some knowledge, understanding and application of writing skills	Demonstrates general knowledge, understanding and application of writing skills	Demonstrates thorough knowledge, understanding and application of writing skills
Method 1	7	< 1	4	< 1	1	36	45	7
Method 2	N/A	N/A	5	< 1	1	39	49	7

Overall Level of Achievement in Writing — Grade 6

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of writing skills	Demonstrates some knowledge, understanding and application of writing skills	Demonstrates general knowledge, understanding and application of writing skills	Demonstrates thorough knowledge, understanding and application of writing skills
Method 1	6	< 1	5	< 1	8	34	38	10
Method 2	N/A	N/A	5	< 1	8	36	40	11

Results At A Glance

☐ Method 1

In Method 1 all data are reported. Method 1 expresses the number of students achieving at each level as a percentage of all of the students in the grade, including students who were exempted and those who took part in the assessment but did not produce enough work to be scored.

Method 1 is EQAO's primary method of reporting because publicly funded schools are accountable for the achievement and progress of all students. Schools and school boards are required to use this method to ensure consistency of reporting across the province.

Due to rounding, percentages may not always total 100.

Overall scores are adjusted for year-to-year differences in assessments.

☐ Method 2

Method 2 is an alternative way of presenting the data. Method 2 expresses the distribution of student results as a percentage of those students who actually took part in the assessment and produced work that could be scored. Students who were exempt, or for whom we have no performance data, are excluded.

Method 2 highlights the results achieved by students who have scorable work.

Overall Level of Achievement in Reading — Grade 3

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of reading skills	Demonstrates some knowledge, understanding and application of reading skills	Demonstrates general knowledge, understanding and application of reading skills	Demonstrates thorough knowledge, understanding and application of reading skills
Method 1	8	< 1	5	< 1	8	30	43	6
Method 2	N/A	N/A	5	< 1	9	32	47	6

Overall Level of Achievement in Reading — Grade 6

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of reading skills	Demonstrates some knowledge, understanding and application of reading skills	Demonstrates general knowledge, understanding and application of reading skills	Demonstrates thorough knowledge, understanding and application of reading skills
Method 1	6	< 1	5	< 1	8	31	42	8
Method 2	N/A	N/A	5	< 1	8	33	45	9

Overall Level of Achievement in Writing — Grade 3

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of writing skills	Demonstrates some knowledge, understanding and application of writing skills	Demonstrates general knowledge, understanding and application of writing skills	Demonstrates thorough knowledge, understanding and application of writing skills
Method 1	7	< 1	4	< 1	1	36	45	7
Method 2	N/A	N/A	5	< 1	1	39	49	7

Overall Level of Achievement in Writing — Grade 6

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of writing skills	Demonstrates some knowledge, understanding and application of writing skills	Demonstrates general knowledge, understanding and application of writing skills	Demonstrates thorough knowledge, understanding and application of writing skills
Method 1	6	< 1	5	< 1	8	34	38	10
Method 2	N/A	N/A	5	< 1	8	36	40	11



Overall Level of Achievement in Mathematics — Grade 3

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of mathematics skills	Demonstrates some knowledge, understanding and application of mathematics skills	Demonstrates general knowledge, understanding and application of mathematics skills	Demonstrates thorough knowledge, understanding and application of mathematics skills
Method 1	6	< 1	2	< 1	6	28	46	11
Method 2	N/A	N/A	2	< 1	6	30	50	12

Overall Level of Achievement in Mathematics — Grade 6

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of mathematics skills	Demonstrates some knowledge, understanding and application of mathematics skills	Demonstrates general knowledge, understanding and application of mathematics skills	Demonstrates thorough knowledge, understanding and application of mathematics skills
Method 1	6	< 1	4	< 1	9	30	39	12
Method 2	N/A	N/A	4	< 1	10	32	42	13

Overall Level of Achievement in Mathematics — Grade 3

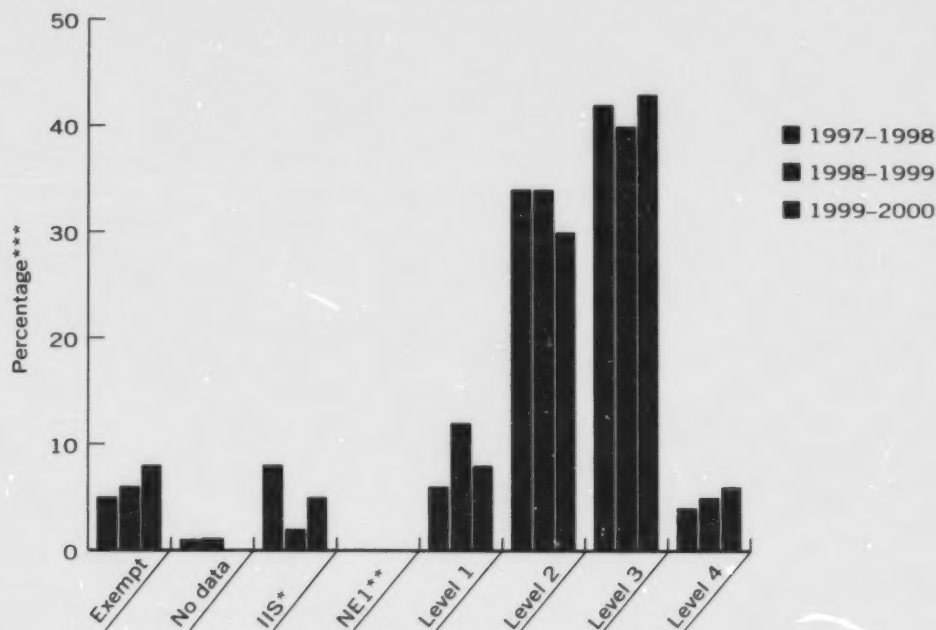
	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of mathematics skills	Demonstrates some knowledge, understanding and application of mathematics skills	Demonstrates general knowledge, understanding and application of mathematics skills	Demonstrates thorough knowledge, understanding and application of mathematics skills
Method 1	6	< 1	2	< 1	6	28	46	11
Method 2	N/A	N/A	2	< 1	6	30	50	12

Overall Level of Achievement in Mathematics — Grade 6

	Exempt	No Data	Insufficient Information to Score	NE Level 1	Level 1	Level 2	Level 3	Level 4
				Provides enough information to score, but does not demonstrate enough evidence of knowledge and understanding to assign Level 1	Demonstrates limited knowledge, understanding and application of mathematics skills	Demonstrates some knowledge, understanding and application of mathematics skills	Demonstrates general knowledge, understanding and application of mathematics skills	Demonstrates thorough knowledge, understanding and application of mathematics skills
Method 1	6	< 1	4	< 1	9	30	39	12
Method 2	N/A	N/A	4	< 1	10	32	42	13

Results, Analysis and Recommendations for Reading

Overall Student Achievement — Grade 3 Reading, 1997-1998 to 1999-2000



The percentage of students achieving at Level 4 has shown a slight increase over the past three years from 4% in 1997-1998 to 5% in 1998-1999 to 6% in 1999-2000. In this year's assessment, 43% of students achieved at Level 3, an improvement over the 1998-1999 results, when 40% of students achieved at Level 3 and a slight improvement over the 1997-1998 results, when 42% of students achieved at Level 3. Thirty percent of students achieved at Level 2, a decrease from 34% of students who achieved at Level 2 in 1997-1998 and 1998-1999. Eight percent of students achieved at Level 1, a decrease from the 12% in 1998-1999 and a slight increase over the 6% in 1997-1998.

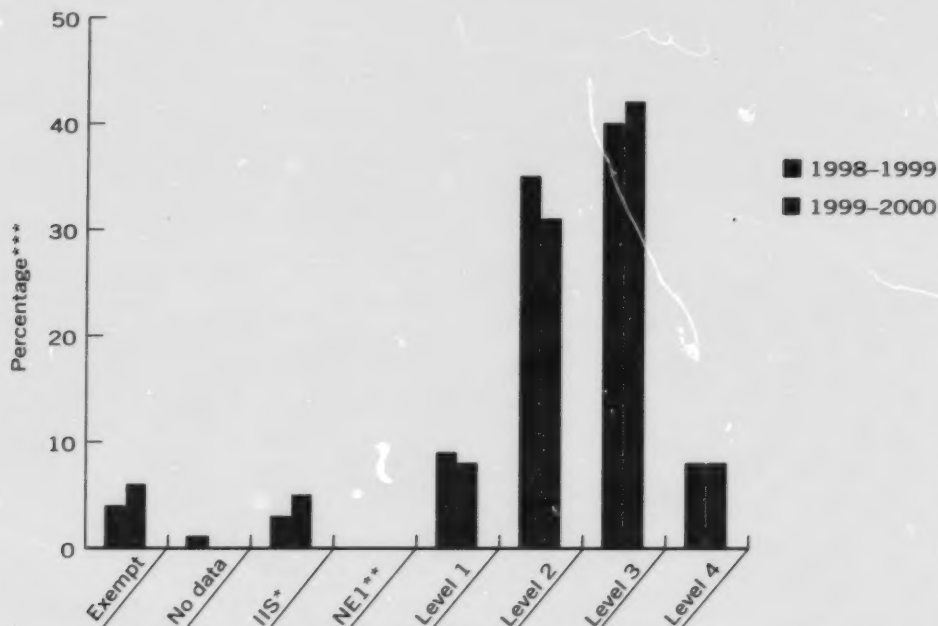
The percentage of students for whom there is no data has been stable over the three-year period from 1997-1998 to 1999-2000. The percentage of students who provided insufficient information to be scored in 1999-2000 has decreased significantly from the percentage in 1997-1998 and is slightly above the percentage in 1998-1999. The percentage of students exempted from the reading portion of the assessment has increased each year over the three-year period from 5% in 1997-1998 to 8% in 1999-2000.

*Insufficient Information to Score

**Not Enough Evidence for Level 1

***Unless otherwise noted, all percentages are based on Method 1 reporting as described in the Results Summary section.

Overall Student Achievement — Grade 6 Reading, 1997-1998 to 1999-2000



The percentage of students achieving at Level 4 has remained virtually the same over the past two years at 8%. Forty-two percent of students achieved at Level 3, a slight improvement over the 1998-1999 result of 40%. The percentage of students achieving at Level 2 shows a slight decrease over the two-year period at 35% in 1998-1999 and 31% in 1999-2000. The percentage of students achieving at Level 1 in 1999-2000 shows a slight decrease over the 1998-1999 results of 9%.

In 1999-2000, 11% of Grade 6 students were not assigned a level of achievement. The percentage of students for whom there is no data has been constant over the two-year period, while the percentage of students who provided insufficient information to be scored has increased slightly from last year. The percentage of students exempted from the reading portion of the assessment has increased this year.

*Insufficient Information to Score

**Not Enough Evidence for Level 1

***Unless otherwise noted, all percentages are based on Method 1 reporting as described in the Results Summary section

Grade 3 and 6 Overall Achievement in Reading at Levels 3 and 4 by Subgroups, 1999-2000

	Grade 3		Grade 6	
Gender	Girls 56%	Boys 43%	Girls 59%	Boys 42%
Language	Non-ESL 50%	ESL 21%	Non-ESL 51%	ESL 17%
Special Education Support	Not Receiving Support 57%	Receiving Support 11%	Not Receiving Support 58%	Receiving Support 12%

In both grades, a higher percentage of girls than boys achieved at Levels 3 and 4. More non-ESL students than ESL students achieved higher results. Students not receiving special education support achieved higher results than students receiving special education support.

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Student Achievement — Grade 3 Reading by Category, 1999-2000*

It is useful for school boards to analyze their reading category results in terms of the provincial results and for schools to analyze their reading category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in reading and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NET**	Level 1	Level 2	Level 3	Level 4
Reasoning: Selects, describes, interprets and analyzes relevant information and ideas from a text to show understanding								
Method 1	8	1	2	1	15	44	27	3
Method 2	N/A	N/A	2	1	16	48	30	3
Communication: Uses the information and ideas in different contexts by connecting them to personal knowledge and experiences and to other readings								
Method 1	8	1	3	< 1	16	46	23	3
Method 2	N/A	N/A	3	< 1	18	50	26	3
Organization of Ideas: Identifies and describes different organizational forms and characteristics of texts (stories, articles and poems) and uses this knowledge to aid understanding								
Method 1	8	1	5	1	20	38	25	3
Method 2	N/A	N/A	5	1	21	41	28	4
Application of Language Conventions: Identifies and explains the use of appropriate language conventions (e.g., phonics, spelling, grammar, punctuation and style)								
Method 1	8	1	2	1	15	31	36	7
Method 2	N/A	N/A	3	1	17	33	39	8

The strongest student achievement is in the category Application of Language Conventions, with 43% of the students achieving at Levels 3 and 4. Thirty percent of students achieved at Levels 3 and 4 in the Reasoning category. Twenty-six percent of students achieved at Levels 3 and 4 in the Communication category. Twenty-eight percent of students achieved at Levels 3 and 4 in the Organization of Ideas category.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

*Student Achievement — Grade 6 Reading by Category, 1999-2000**

It is useful for school boards to analyze their reading category results in terms of the provincial results and for schools to analyze their reading category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in reading and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Reasoning: Selects, describes, interprets and analyzes relevant information and ideas from a text to show understanding								
Method 1	6	1	2	< 1	11	44	31	5
Method 2	N/A	N/A	2	< 1	12	47	34	5
Communication: Uses the information and ideas in different contexts by connecting them to personal knowledge and experiences and to other readings								
Method 1	6	1	2	< 1	12	45	29	6
Method 2	N/A	N/A	2	< 1	12	48	31	6
Organization of Ideas: Identifies and describes different organizational forms and characteristics of texts (stories, articles and poems) and uses this knowledge to aid understanding								
Method 1	6	1	2	< 1	13	42	31	5
Method 2	N/A	N/A	2	< 1	14	45	33	5
Application of Language Conventions: Identifies and explains the use of appropriate language conventions (e.g., phonics, spelling, grammar, punctuation and style)								
Method 1	6	1	3	< 1	19	32	32	7
Method 2	N/A	N/A	4	< 1	21	34	34	8

The strongest student achievement is in the category Application of Language Conventions, with 39% of the students achieving at Levels 3 and 4. Student performance in the categories Reasoning, Communication and Organization of Ideas is virtually the same at 36%, 35% and 36% respectively.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

*Student Achievement — Grade 3 Reading by Category, 1999-2000**

It is useful for school boards to analyze their reading category results in terms of the provincial results and for schools to analyze their reading category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in reading and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS[*]	NE1^{**}	Level 1	Level 2	Level 3	Level 4
Reasoning: Selects, describes, interprets and analyzes relevant information and ideas from a text to show understanding								
Method 1	8	1	2	1	15	44	27	3
Method 2	N/A	N/A	2	1	16	48	30	3
Communication: Uses the information and ideas in different contexts by connecting them to personal knowledge and experiences and to other readings								
Method 1	8	1	3	< 1	16	46	23	3
Method 2	N/A	N/A	3	< 1	18	50	26	3
Organization of Ideas: Identifies and describes different organizational forms and characteristics of texts (stories, articles and poems) and uses this knowledge to aid understanding								
Method 1	8	1	5	1	20	38	25	3
Method 2	N/A	N/A	5	1	21	41	28	4
Application of Language Conventions: Identifies and explains the use of appropriate language conventions (e.g., phonics, spelling, grammar, punctuation and style)								
Method 1	8	1	2	1	15	31	36	7
Method 2	N/A	N/A	3	1	17	33	39	8

The strongest student achievement is in the category Application of Language Conventions, with 43% of the students achieving at Levels 3 and 4. Thirty percent of students achieved at Levels 3 and 4 in the Reasoning category. Twenty-six percent of students achieved at Levels 3 and 4 in the Communication category. Twenty-eight percent of students achieved at Levels 3 and 4 in the Organization of Ideas category.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

Student Achievement — Grade 6 Reading by Category, 1999-2000*

It is useful for school boards to analyze their reading category results in terms of the provincial results and for schools to analyze their reading category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in reading and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NET**	Level 1	Level 2	Level 3	Level 4
Reasoning: Selects, describes, interprets and analyzes relevant information and ideas from a text to show understanding								
Method 1	6	1	2	< 1	11	44	31	5
Method 2	N/A	N/A	2	< 1	12	47	34	5
Communication: Uses the information and ideas in different contexts by connecting them to personal knowledge and experiences and to other readings								
Method 1	6	1	2	< 1	12	45	29	6
Method 2	N/A	N/A	2	< 1	12	48	31	6
Organization of Ideas: Identifies and describes different organizational forms and characteristics of texts (stories, articles and poems) and uses this knowledge to aid understanding								
Method 1	6	1	2	< 1	13	42	31	5
Method 2	N/A	N/A	2	< 1	14	45	33	5
Application of Language Conventions: Identifies and explains the use of appropriate language conventions (e.g., phonics, spelling, grammar, punctuation and style)								
Method 1	6	1	3	< 1	19	32	32	7
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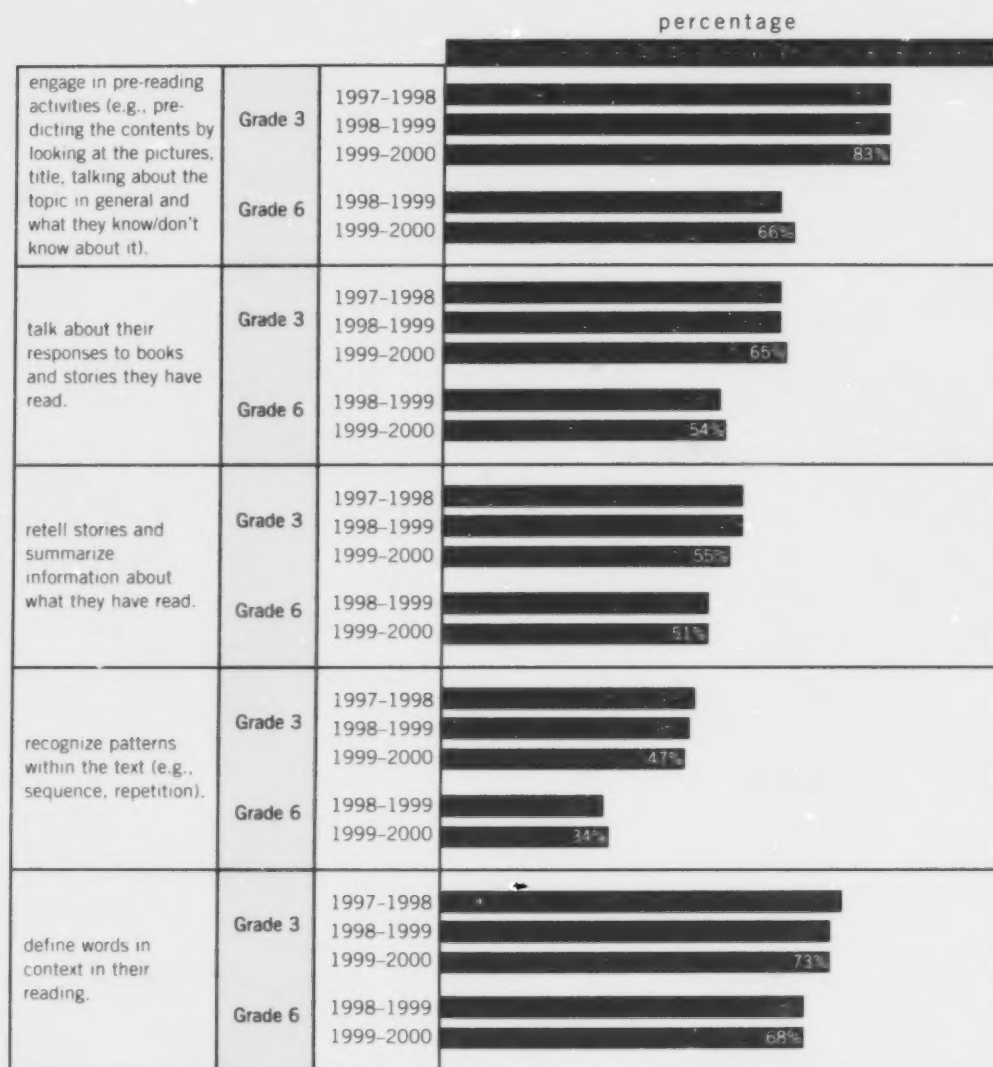
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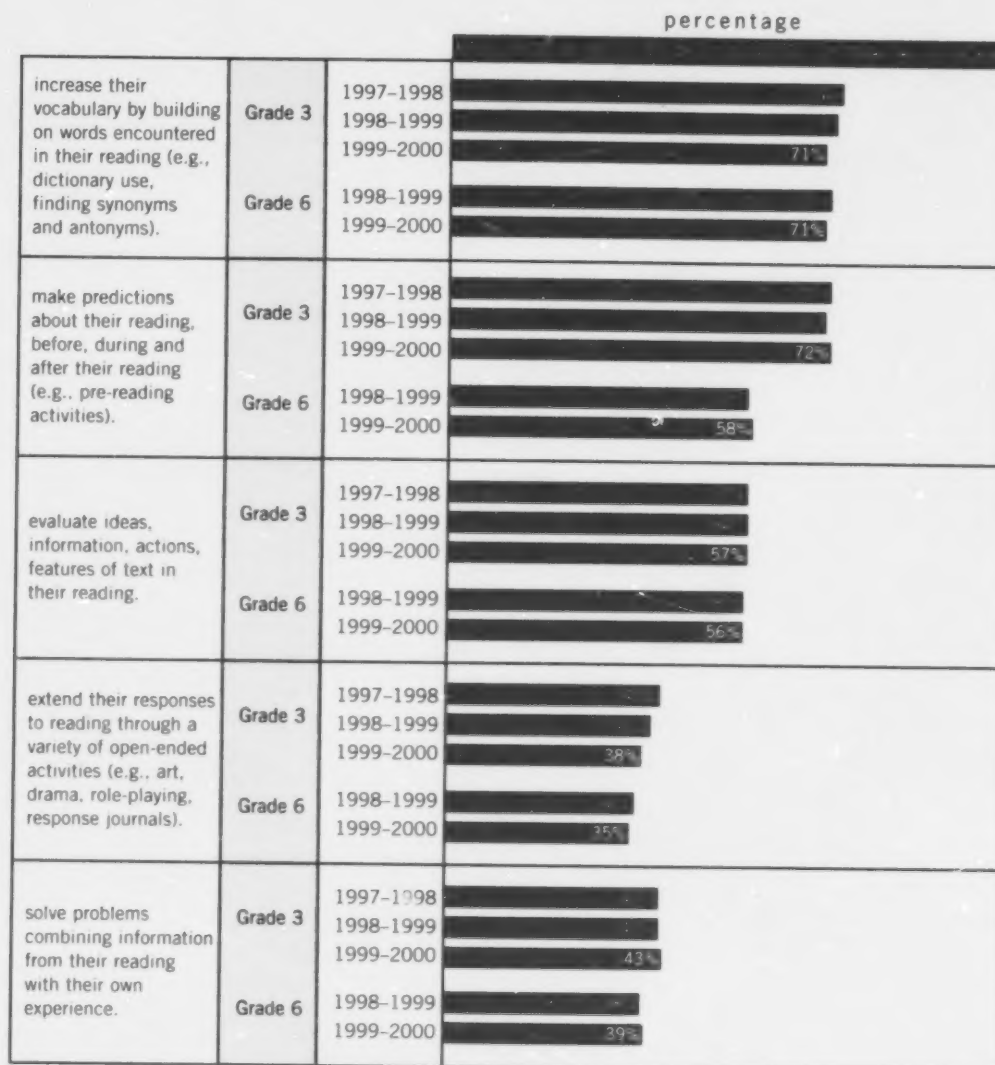
Relevant Findings from the Teacher Questionnaire

Using the Reading Process

Teachers who indicate that **at least a few times a week** they have their students:

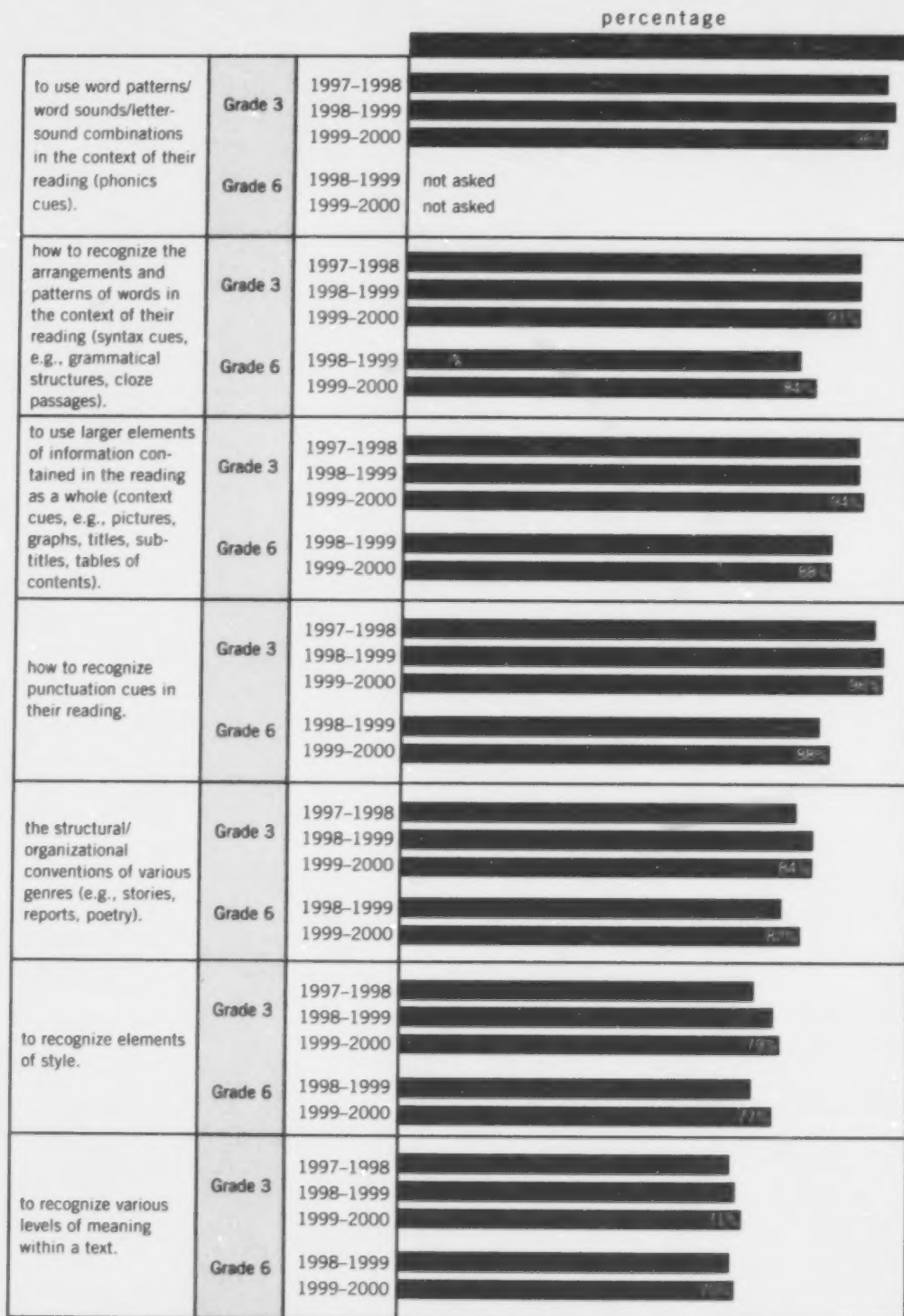


Teachers who indicate that **at least a few times a week** they have their students:



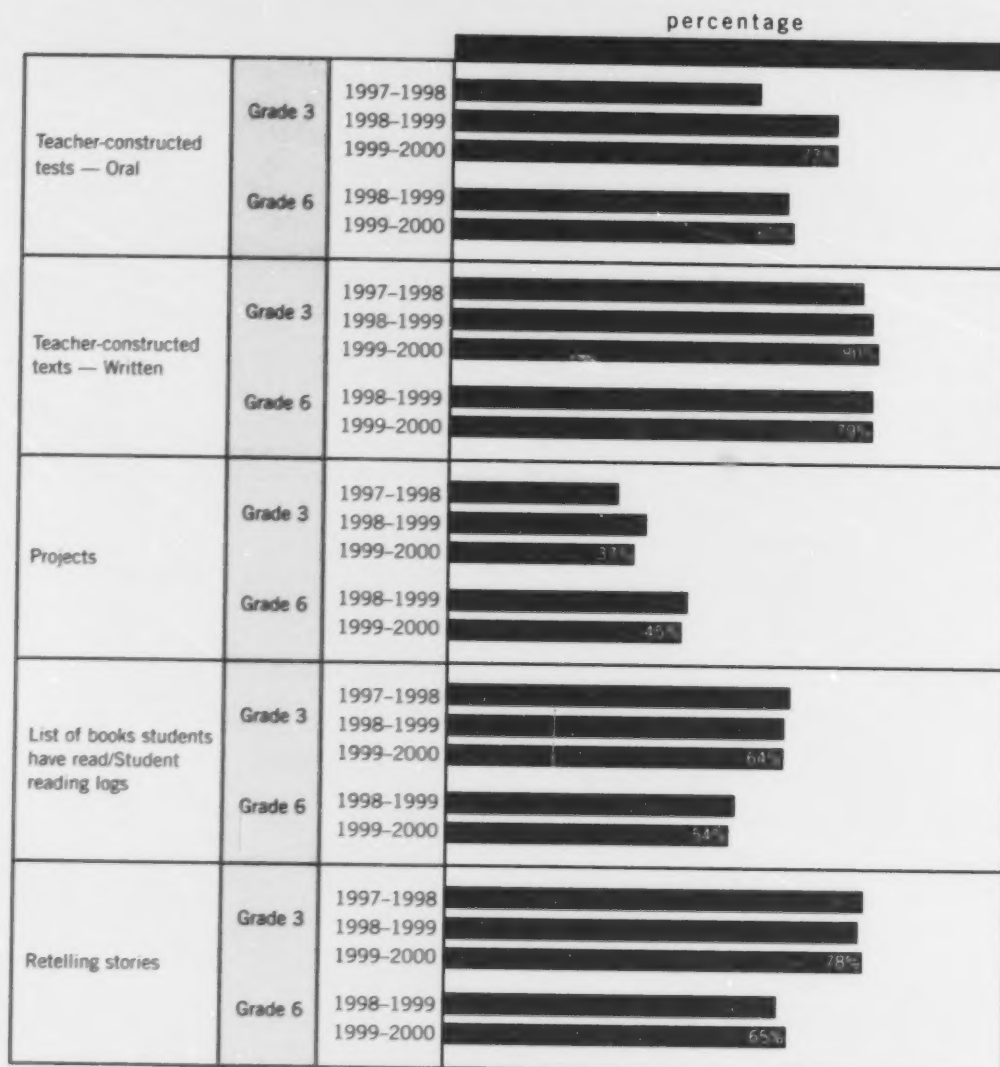
Teaching Key Reading Strategies

Teachers who indicate that *at least a few times a month* they teach their students:



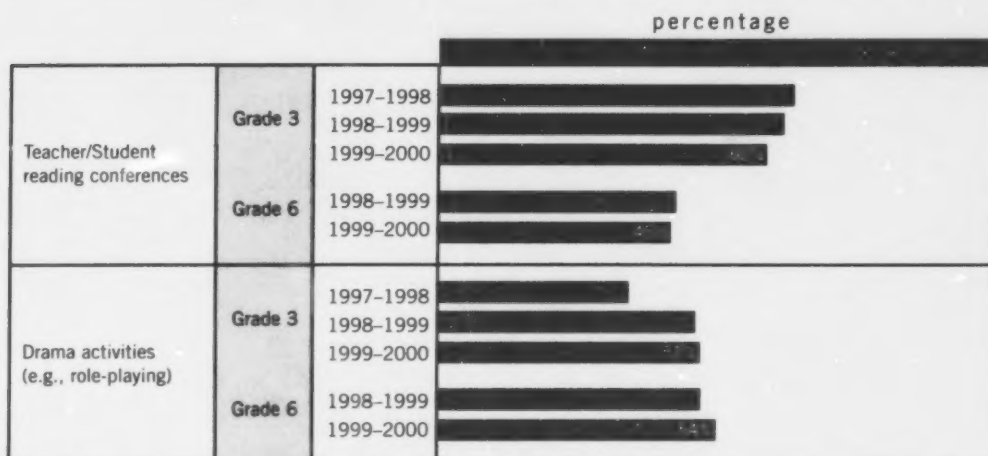
Assessing Reading

Teachers who indicate that **at least a few times a month** they use the following materials and strategies in assessing their students' progress in reading:

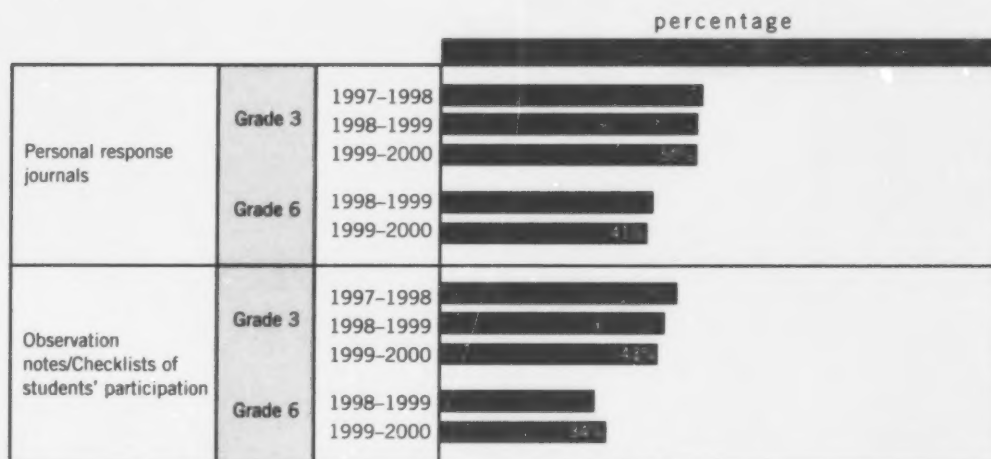


continued...

Teachers who indicate that **at least a few times a month** they use the following materials and strategies in assessing their students' progress in reading (continued):

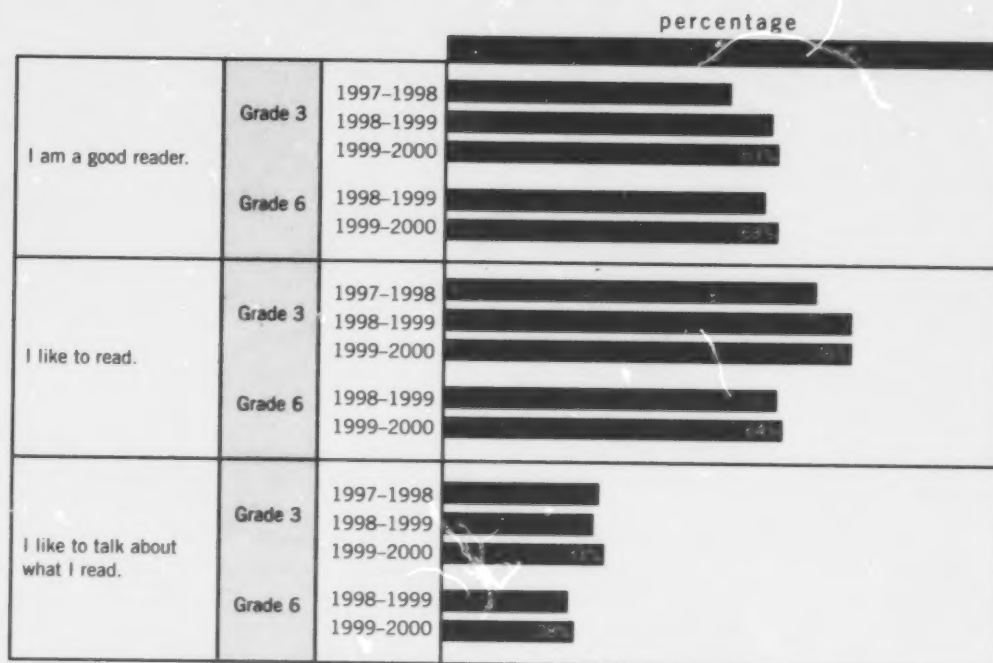


Teachers who indicate that **at least a few times a week** they use the following materials and strategies in assessing their students' progress in reading:

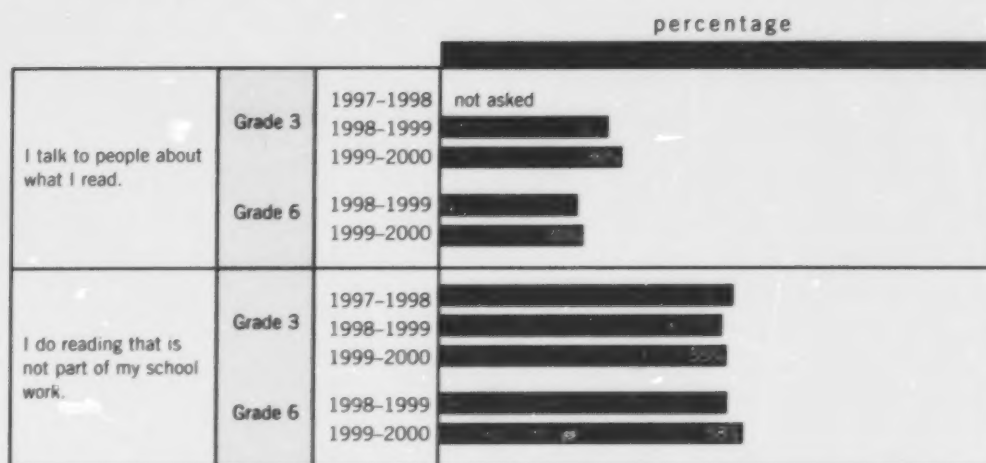


Relevant Findings from the Student Questionnaire

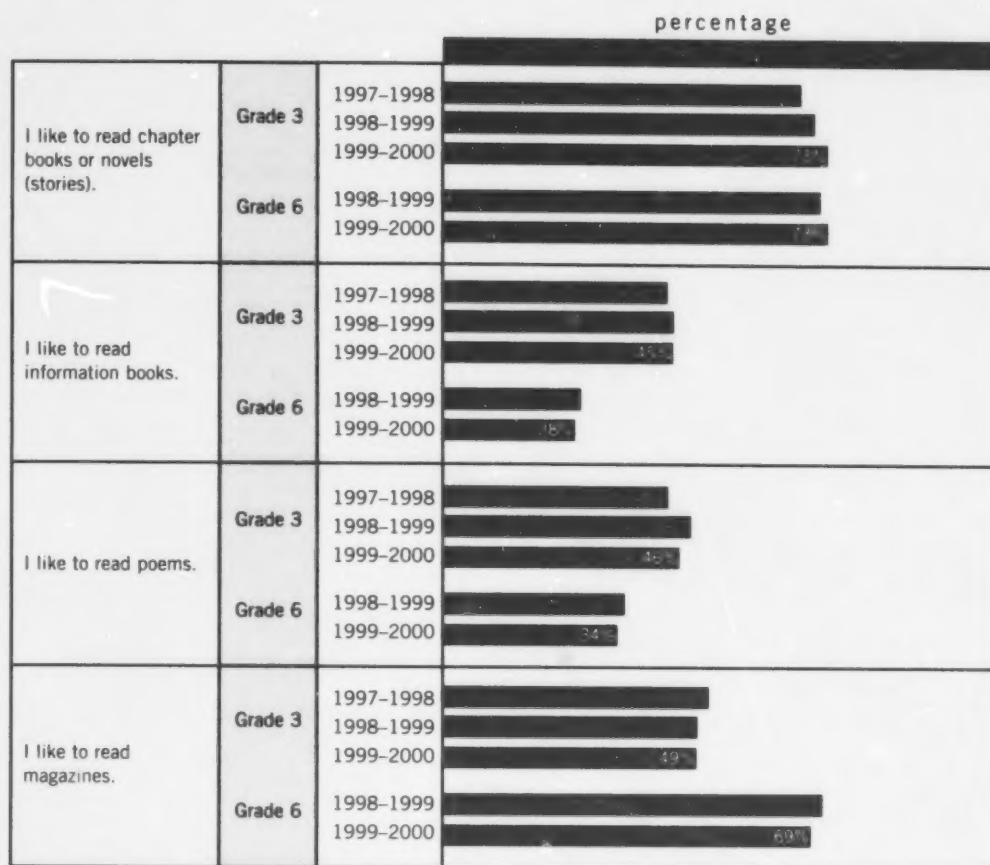
Student Attitudes Toward Reading



There are consistent gender differences in attitudes toward reading in both grades. In Grade 3 and Grade 6, the proportion of girls who indicate that they are good readers and that they like to talk to people about what they have read is roughly 5 percentage points higher than boys. Also, in both grades, the proportion of girls who indicate that they like to read is roughly 14 percentage points higher.

Student Reading Habits

In Grade 3, the percentage of girls and boys who indicate that they like to talk to people about their reading is roughly the same, but in Grade 6, slightly more girls than boys indicate that they talk to people about what they read. There are gender differences in both grades in the proportion of girls and boys who do reading that is not part of their school work. In Grade 3, the proportion of girls is 10 percentage points higher and in Grade 6, 15 percentage points higher.

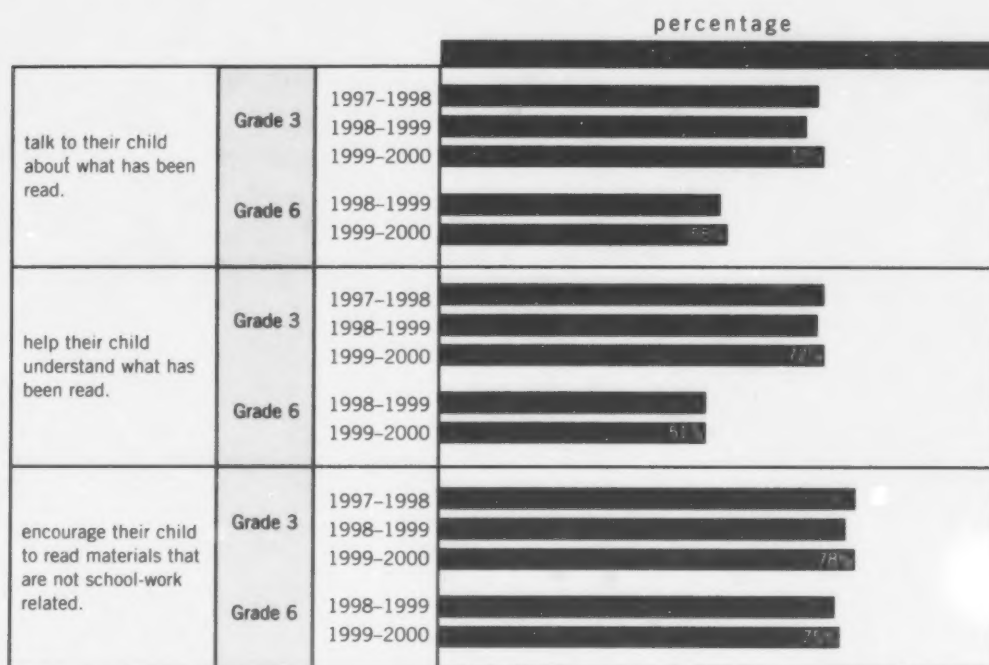
Student Reading Preferences

There are some consistent gender differences in reading preferences. In Grade 3, the proportion of girls who indicate that they like reading chapter books or novels is 7 percentage points higher than boys, and in Grade 6, this increases to 15 percentage points. In Grade 3, the percentage of boys who indicate they like reading information books is 8 percentage points higher and in Grade 6, 13 percentage points higher. In both grades, the proportion of girls who indicate that they like to read poems is 25 percentage points higher than boys. In Grade 3, the percentage of girls and boys who indicate they like to read magazines is roughly the same, but by Grade 6, the proportion of girls who like reading magazines is 15 percentage points higher.

Relevant Findings from the Home Questionnaire

Parental Support for Reading

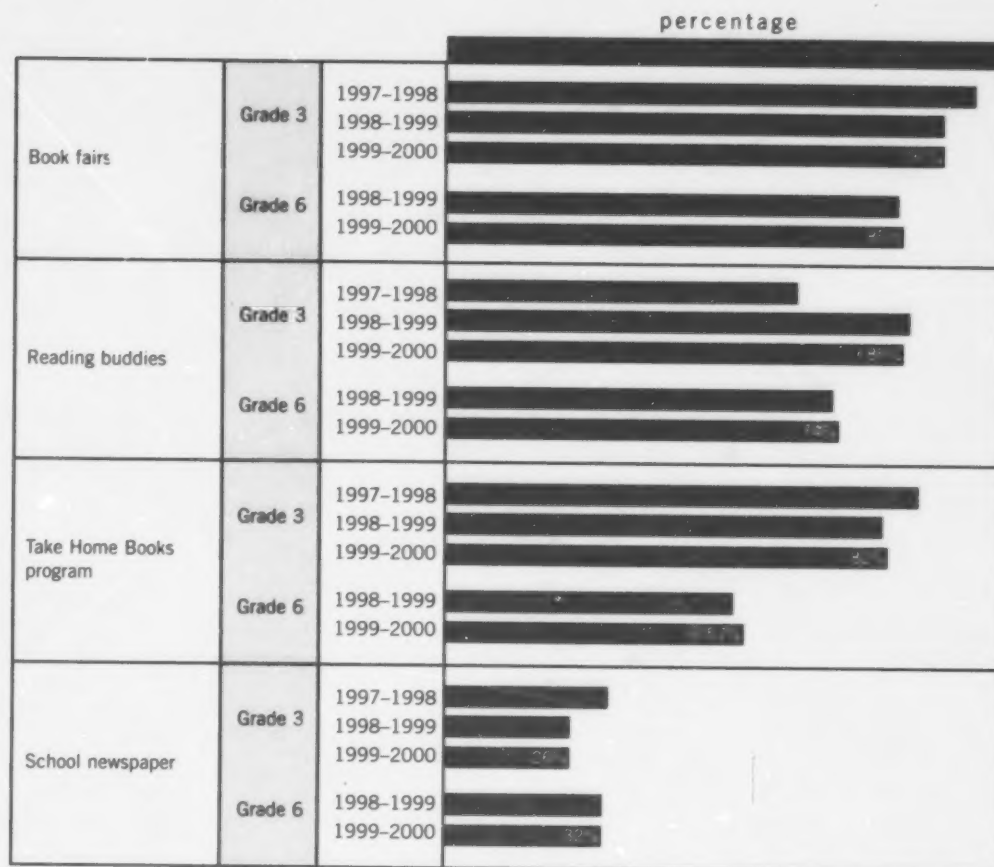
Parents who indicate that **at least a few times a week** they:



Relevant Findings from the Principal Questionnaire

Schoolwide Reading Opportunities

Principals who indicate that their school has provided the following opportunities for students in the past 2 years:



Observations and Suggestions Made by Trained Teacher Markers at the Marking Sites

The trained teacher markers made observations and provided suggestions about students' work to enhance and improve student learning in reading, writing and mathematics. They focused their observations and suggestions on specific content expectations as well as on the knowledge and skills within the categories. There is considerable similarity in the observations made by Grade 3 and Grade 6 markers.

Observations and Suggestions Specific to Grade 3 Reading

1. Students need to focus on

- reading non-fiction materials,
- identifying and describing elements of stories, and
- demonstrating their understanding as they restate questions or information.

2. In the category Reasoning, students need to focus on

- describing and interpreting text,
- beginning to make inferences, and
- identifying main idea(s).

3. In the category Communication, students need to focus on

- relating textual information to personal knowledge and experiences and to other readings, and
- stating an opinion supported by evidence.

4. In the category Organization of Ideas, students need to focus on

- identifying and describing characteristics of different forms of writing, and
- understanding the use of organizational tools such as graphs, story maps and sequence charts.

5. In the category Application of Language Conventions, students need to focus on

- identifying and explaining the use of language conventions such as quotations marks and italics.

Observations and Suggestions Specific to Grade 6 Reading

1. In the category Reasoning, students need to focus on
 - analyzing and interpreting relevant information both from reading passages and from questions,
 - linking print information to other textual information such as charts,
 - making judgements and drawing conclusions based on evidence from the text, and
 - summarizing and explaining main ideas and citing details that support the main idea.
2. In the category Communication, students need to focus on
 - explaining their interpretation of the text by linking evidence from the text to their own personal knowledge and experience.
3. In the category Organization of Ideas, students need to focus on
 - identifying and explaining elements of various forms of writing, and
 - recognizing, describing and understanding how different organizational forms such as charts and sidebars assist in comprehending information.
4. In the category of Application Language Conventions, students need to focus on
 - identifying examples of language conventions and explaining their uses,
 - using their knowledge of words and word patterns to describe the meaning of unfamiliar words, and
 - using a variety of grade-appropriate language conventions.

Data Highlights — Reading

Overall Reading Achievement

- Forty-nine percent of Grade 3 students and 50% of Grade 6 students are achieving at Levels 3 and 4 in reading. There has been a slight increase for Grade 3 students over the past three years, and a slight increase for Grade 6 students since last year.
- More girls than boys are achieving at Levels 3 and 4 in reading. In Grade 3, 56% of girls and 43% of boys are achieving at Levels 3 and 4. In Grade 6, 59% of girls and 42% of boys are achieving at Levels 3 and 4.

Exemptions

- The percentage of Grade 3 students being exempted from the reading portion of the assessment has increased over the past three years (from 5% to 8%), with 10% of boys being exempted and 6% of girls being exempted. The percentage of Grade 6 students exempted from reading increased to 6% from 4% a year ago.

Relevant Teacher Questionnaire Data

- Over 90% of Grade 3 and Grade 6 teachers indicate they are very, or somewhat, comfortable teaching and assessing the knowledge and skills required within each of the reading categories. This pattern has been consistent among Grade 3 teachers for three years and among Grade 6 teachers for two years.
- A very high percentage of Grade 3 and Grade 6 teachers report using reading and assessment strategies that focus on the knowledge and skills in the category Application of Language Conventions. However, the percentage of Grade 3 and Grade 6 teachers who report using strategies that focus on the knowledge and skills in the other three categories is generally lower, and in some cases much lower. This pattern has been consistent among Grade 3 teachers over three years and among Grade 6 teachers for two years.

Relevant Student Questionnaire Data

- The percentage of Grade 3 students who indicate they like to read has increased over the three-year period, from 70% to 76%. The percentage of girls who like to read has increased from 79% to 83% and the percentage of boys has increased from 66% to 70%. The percentage of Grade 6 students who indicate they like to read is consistently lower than the Grade 3 students; however, it has increased from 63% in 1998-1999 to 64% this year. Fifty-six percent of Grade 6 boys indicate that they like to read, up from 54% in 1998-1999.
- Fifty-five percent of Grade 3 and 58% of Grade 6 students indicate that they read material that is not part of their school work. Sixty percent of Grade 3 and 65% of Grade 6 girls indicate that they read non-school materials, compared to 50% of boys for either grade. These percentages are consistent with previous years for both groups of students.
- Students consistently indicate a strong preference for reading fiction over reading non-fiction, with more girls preferring fiction and more boys preferring non-fiction.

- Thirty-three percent of Grade 3 students and 28% of Grade 6 students report that they like to talk about what they have read. This pattern is consistent for both groups over time. For both grades, more girls than boys indicate that they like doing this.

Relevant Home Questionnaire Data

- Roughly 75% of Grade 3 and Grade 6 parents indicate that they encourage their child to read materials that are not school-work related. This is a consistent pattern over the past few years for both groups.
- Over 70% of Grade 3 parents indicate that they help their child understand what has been read, but this drops to just over 50% for Grade 6 parents. Both patterns are consistent with previous years.
- Roughly 70% of Grade 3 parents indicate that they talk to their child about what has been read. This drops to 55% for Grade 6 parents. This pattern is consistent over the past few years for both groups.

Relevant Principal Questionnaire Data

- Over 90% of principals indicate that Grade 3 students have opportunities to visit school book fairs and over 80% indicate that Grade 6 students have such opportunities.

Specific Recommendations for Reading

"Although the lists of expectations might suggest that the skills involved in reading are discrete skills, they are in fact aspects of one integrated process that is best applied in a context that students see as meaningful and that encourages them to think creatively and critically about what they are reading." (*The Ontario Curriculum, Grades 1–8: Language*, 1997)

The following recommendations are based on

- the 1999–2000 overall and category achievement results;
- the patterns and trends emerging from the year-to-year overall and category results;
- the collection of data from the various questionnaires; and
- suggestions from the trained teacher markers at the EQAO reading marking centre.

A number of the recommendations reinforce and build upon the recommendations made in last year's report.

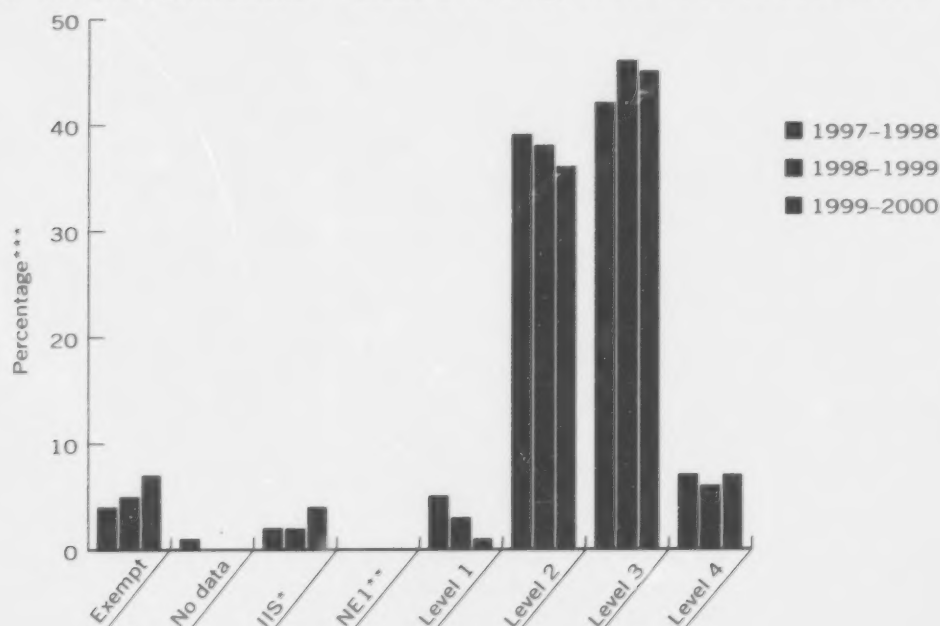
EQAO recommends that

1. Teachers focus their reading instruction and assessment specifically on the overall and specific expectations for the grade they are teaching, while at the same time recognizing the continuum of skills development throughout the curriculum.
2. Teachers provide students with multiple and regular opportunities to do activities associated with the category Reasoning, which requires students to select, describe, interpret and analyze relevant ideas from the text. For example, have students
 - select supporting information,
 - describe a character's actions,
 - find the main idea, and
 - explain why the writer took this position.
3. Teachers provide students with multiple and regular opportunities to do activities associated with the category Communication, which requires students to use ideas and information in different contexts by connecting them to personal knowledge and experiences and other readings. For example, have students
 - give their opinion about what they have read, and
 - support their opinion from the reading and from their own experience/thinking.

4. Teachers provide students with multiple and regular opportunities to do activities associated with the category Organization of Ideas, which requires students to identify and describe different ways that different texts are organized and to use this knowledge to aid understanding. For example, as they read, have students
 - examine the way in which a particular story is organized, and
 - tell how the organization helps them predict what to expect next.
5. Teachers provide students with multiple and regular opportunities to do activities associated with Application of Language Conventions, which requires students to identify and explain the use of language conventions up to and including those that are relevant for the grade level. For example, have students
 - identify the name of a grade-appropriate punctuation mark, and
 - explain how it helps the reader understand the text.
6. Teachers ensure their reading programs offer
 - a balance between fiction and non-fiction materials,
 - types of reading materials that reflect the changing reading patterns of students from early to later grades (e.g., a much stronger preference for magazines indicated by Grade 6 students than by Grade 3 students), and
 - a variety of content in the materials to appeal to the reading interests of as many students as possible, particularly boys, who seem to require close connection with the content to sustain their interest in what they are reading.
7. Teachers, working with the principal, parents, the school improvement planning committee and school council, provide more opportunities for students to engage in dialogue about their reading, particularly explaining, summarizing and reflecting on the information and ideas and relating the information and ideas to their personal experiences and opinion.
8. Teachers focus on the reading skills required to understand and interpret questions, prompts and instructions, for example,
 - understanding the demands of key words and phrases, and
 - understanding and following the sequencing of multi-step tasks.
9. That teachers, working with the principal, recognize the cross-curricular nature of their reading program by embedding instruction in reading skills and reading-related activities in all subjects.

Results, Analysis and Recommendations for Writing

Overall Student Achievement — Grade 3 Writing, 1997-1998 to 1999-2000



The percentage of students achieving at Level 4 has remained virtually the same over the past three years at 7% in 1997-1998, 6% in 1998-1999 and 7% in 1999-2000. The percentage of students achieving at Level 3 shows a slight improvement over the 1997-1998 results. In 1997-1998, 42% of students achieved at Level 3, in 1998-1999, 46% achieved at Level 3 and in 1999-2000, 45% of students achieved at Level 3. The percentage of students achieving at Level 2 shows a slight decrease over the last three years with 39% in 1997-1998, 38% in 1998-1999 and 36% in 1999-2000. The percentage of students achieving at Level 1 has shown a slight decrease from 5% in 1997-1998 to 3% in 1998-1999 and 1% in 1999-2000.

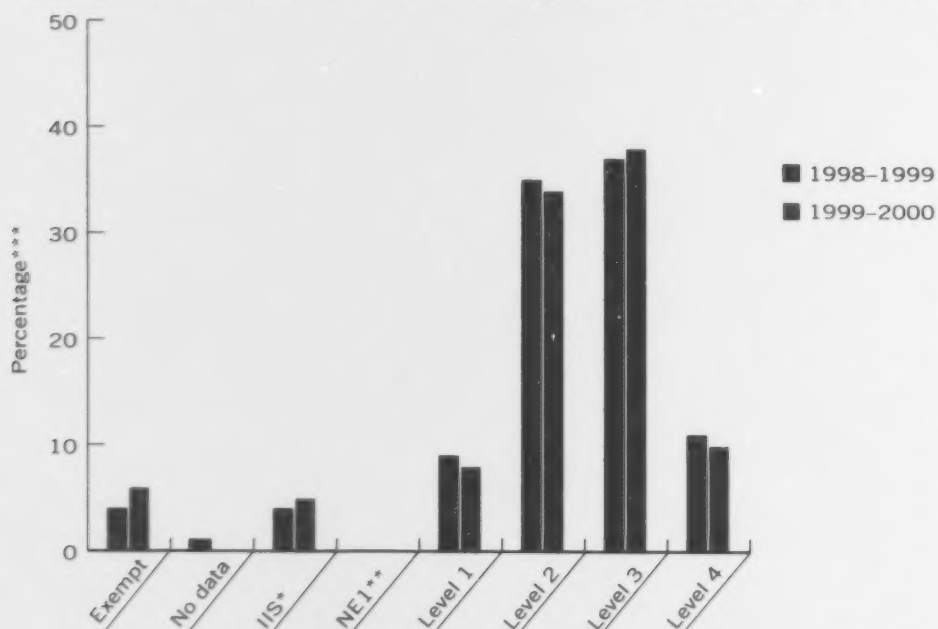
In 1999-2000, 11% of Grade 3 students were not assigned a level of achievement. The percentage of students for whom there is no data has been virtually the same over the three-year period: at or below 1%. The percentage of students who provided insufficient information to be scored has increased from 2% in 1997-1998 and 1998-1999 to 4% in 1999-2000. The percentage of students exempted from the writing portion of the assessment has increased each year over the three-year period from 4% in 1997-1998 to 5% in 1998-1999, to 7% in 1999-2000.

*Insufficient Information to Score

**Not Enough Evidence for Level 1

***Unless otherwise noted, all percentages are based on Method 1 reporting as described in the Results Summary section.

Overall Student Achievement — Grade 6 Writing, 1998-1999 and 1999-2000



The percentage of students achieving at Level 4 has remained virtually the same over the past two years at 10% in 1999-2000 and 11% in 1998-1999. The percentage of students of achieving at Level 3 has also remained virtually the same over the past two years at 38% in 1999-2000 and 37% in 1998-1999. The percentage of students achieving at Level 2 shows a slight decrease over the two-year period at 34% in 1999-2000 and 35% in 1998-1999. The percentage of students achieving at Level 1 is 8% in 1999-2000, down from 9% in 1998-1999.

Eleven percent of Grade 6 students were not assigned a level of achievement. The percentage of students for whom there is no data has been the same over the two-year period: at or below 1%. The percentage of students who provided insufficient information to be scored has increased from 4% to 5% in 1999-2000. The percentage of students exempted from the writing portion of the assessment has increased over the past two years from 4% to 6%.

Grade 3 and 6 Overall Achievement in Writing at Levels 3 and 4 by Subgroups, 1999-2000

	Grade 3		Grade 6	
Gender	Girls 60%	Boys 44%	Girls 58%	Boys 39%
Language	Non-ESL 53%	ESL 24%	Non-ESL 49%	ESL 15%
Special Education Support	Not Receiving Support 59%	Receiving Support 11%	Not Receiving Support 55%	Receiving Support 10%

*Insufficient Information to Score

**Not Enough Evidence for Level 1

***Unless otherwise noted, all percentages are based on Method 1 reporting as described in the Results Summary section.

**IMPORTANT NOTE CONCERNING THE FOLLOWING
PAGES**

**THE PAGES WHICH FOLLOW HAVE BEEN FILMED
TWICE IN ORDER TO OBTAIN THE BEST
REPRODUCTIVE QUALITY**

**USERS SHOULD CONSULT ALL THE PAGES
REPRODUCED ON THE FICHE IN ORDER TO OBTAIN
A COMPLETE READING OF THE TEXT.**

**REMARQUE IMPORTANTE CONCERNANT LES
PAGES QUI SUIVENT**

**LES PAGES SUIVANTES ONT ÉTÉ REPRODUITES EN
DOUBLE AFIN D'AMÉLIORER LA QUALITÉ DE
REPRODUCTION**

**LES UTILISATEURS DOIVENT CONSULTER TOUTES
LES PAGES REPRODUITES SUR LA FICHE AFIN
D'OBTENIR LA LECTURE DU TEXTE INTÉGRAL**

In both grades, a higher percentage of girls than boys achieved at Levels 3 and 4. More non-ESL students than ESL students achieved higher results. Students not receiving special education support achieved higher results than students receiving special education support.

*Student Achievement — Grade 3 Writing by Category, 1999-2000**

It is useful for school boards to analyze their writing category results in terms of the provincial results and for schools to analyze their writing category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in writing and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Reasoning: Understands the purpose of the writing task, develops ideas and relates them to the purpose of the task and to each other								
Method 1	7	1	2	< 1	6	53	28	3
Method 2	N/A	N/A	2	< 1	7	57	30	4
Communication: Uses appropriate writing techniques, including vocabulary, imagery and sentence variety to create a tone (i.e., the writer's voice) and writes for a specific audience								
Method 1	7	1	2	< 1	6	45	34	6
Method 2	N/A	N/A	2	< 1	6	49	36	6
Organization of Ideas: Shows evidence of a logical plan and/or focus, and presents connected ideas								
Method 1	7	1	2	< 1	8	52	27	3
Method 2	N/A	N/A	2	< 1	8	57	29	3
Application of Language Conventions: Applies language conventions correctly (spelling, grammar, punctuation, etc.)								
Method 1	7	1	2	< 1	9	43	34	5
Method 2	N/A	N/A	2	< 1	9	46	37	6

In all four categories, Reasoning, Communication, Organization of Ideas and Application of Language of Conventions, the percentage of students achieving at Levels 3 and 4 is under or equal to 40%.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

*Student Achievement — Grade 6 Writing by Category, 1999-2000**

It is useful for school boards to analyze their writing category results in terms of the provincial results and for schools to analyze their writing category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in writing and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Reasoning: Understands the purpose of the writing task, develops ideas and relates them to the purpose of the task and to each other								
Method 1	6	1	2	< 1	4	41	40	7
Method 2	N/A	N/A	2	< 1	4	44	43	7
Communication: Uses appropriate writing techniques, including vocabulary, imagery and sentence variety to create a tone (i.e., the writer's voice) appropriate for a specific audience								
Method 1	6	1	2	< 1	4	38	40	10
Method 2	N/A	N/A	2	< 1	4	41	43	10
Organization of Ideas: Organizes ideas and information logically in sentences, in paragraphs and within the overall organization								
Method 1	6	1	2	< 1	5	41	38	7
Method 2	N/A	N/A	2	< 1	5	44	41	8
Application of Language Conventions: Applies language conventions (spelling, grammar, punctuation, etc.) correctly								
Method 1	6	1	2	< 1	4	35	44	9
Method 2	N/A	N/A	2	< 1	4	37	47	9

In the categories Reasoning, Communication and Organization of Ideas, the percentage of students achieving at Levels 3 and 4 is under or equal to 50%. In the category Application of Language Conventions, the percentage of students achieving at Levels 3 and 4 is over 50%.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

In both grades, a higher percentage of girls than boys achieved at Levels 3 and 4. More non-ESL students than ESL students achieved higher results. Students not receiving special education support achieved higher results than students receiving special education support.

*Student Achievement — Grade 3 Writing by Category, 1999–2000**

It is useful for school boards to analyze their writing category results in terms of the provincial results and for schools to analyze their writing category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in writing and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NET**	Level 1	Level 2	Level 3	Level 4
Reasoning: Understands the purpose of the writing task, develops ideas and relates them to the purpose of the task and to each other								
Method 1	7	1	2	< 1	6	53	28	3
Method 2	N/A	N/A	2	< 1	7	57	30	4
Communication: Uses appropriate writing techniques, including vocabulary, imagery and sentence variety to create a tone (i.e., the writer's voice) and writes for a specific audience								
Method 1	7	1	2	< 1	6	45	34	6
Method 2	N/A	N/A	2	< 1	6	49	36	6
Organization of Ideas: Shows evidence of a logical plan and/or focus, and presents connected ideas								
Method 1	7	1	2	< 1	8	52	27	3
Method 2	N/A	N/A	2	< 1	8	57	29	3
Application of Language Conventions: Applies language conventions correctly (spelling, grammar, punctuation, etc.)								
Method 1	7	1	2	< 1	9	43	34	5
Method 2	N/A	N/A	2	< 1	9	46	37	6

In all four categories, Reasoning, Communication, Organization of Ideas and Application of Language of Conventions, the percentage of students achieving at Levels 3 and 4 is under or equal to 40%.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NET = Not Enough Evidence for Level 1

Student Achievement — Grade 6 Writing by Category, 1999-2000*

It is useful for school boards to analyze their writing category results in terms of the provincial results and for schools to analyze their writing category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in writing and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NET**	Level 1	Level 2	Level 3	Level 4
Reasoning: Understands the purpose of the writing task, develops ideas and relates them to the purpose of the task and to each other								
Method 1	6	1	2	< 1	4	41	40	7
Method 2	N/A	N/A	2	< 1	4	44	43	7
Communication: Uses appropriate writing techniques, including vocabulary, imagery and sentence variety to create a tone (i.e., the writer's voice) appropriate for a specific audience								
Method 1	6	1	2	< 1	4	38	40	10
Method 2	N/A	N/A	2	< 1	4	41	43	10
Organization of Ideas: Organizes ideas and information logically in sentences, in paragraphs and within the overall organization								
Method 1	6	1	2	< 1	5	41	38	7
Method 2	N/A	N/A	2	< 1	5	44	41	8
Application of Language Conventions: Applies language conventions (spelling, grammar, punctuation, etc.) correctly								
Method 1	6	1	2	< 1	4	35	44	9
Method 2	N/A	N/A	2	< 1	4	37	47	9

In the categories Reasoning, Communication and Organization of Ideas, the percentage of students achieving at Levels 3 and 4 is under or equal to 50%. In the category Application of Language Conventions, the percentage of students achieving at Levels 3 and 4 is over 50%.

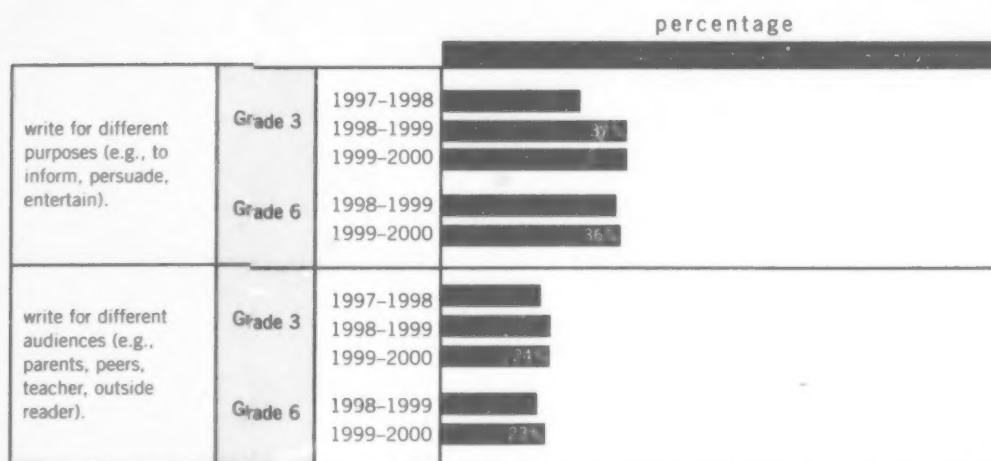
*Category scores are not adjusted for year-to-year differences in assessments.

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Relevant Findings from the Teacher Questionnaire

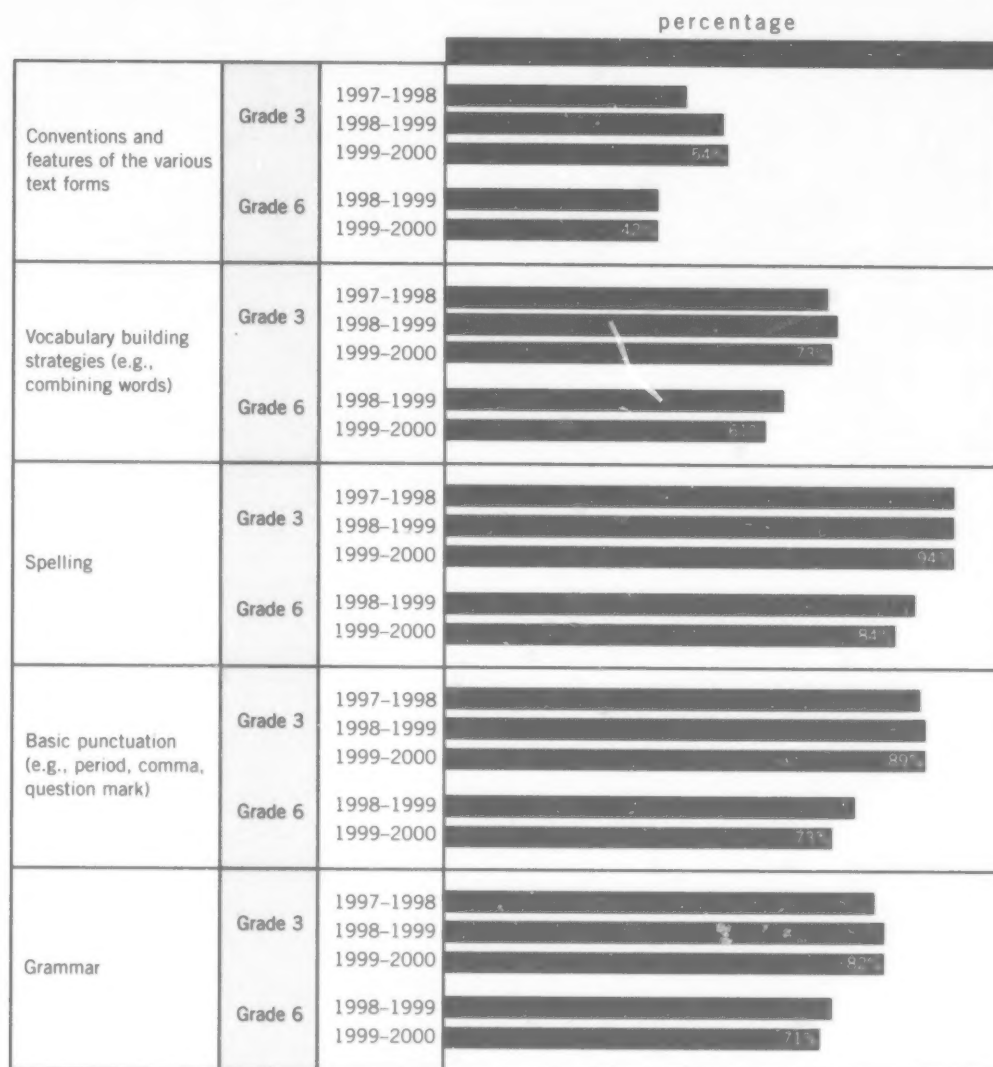
Writing for Different Purposes and Audiences

Teachers who indicate that **at least a few times a week** they have their students:



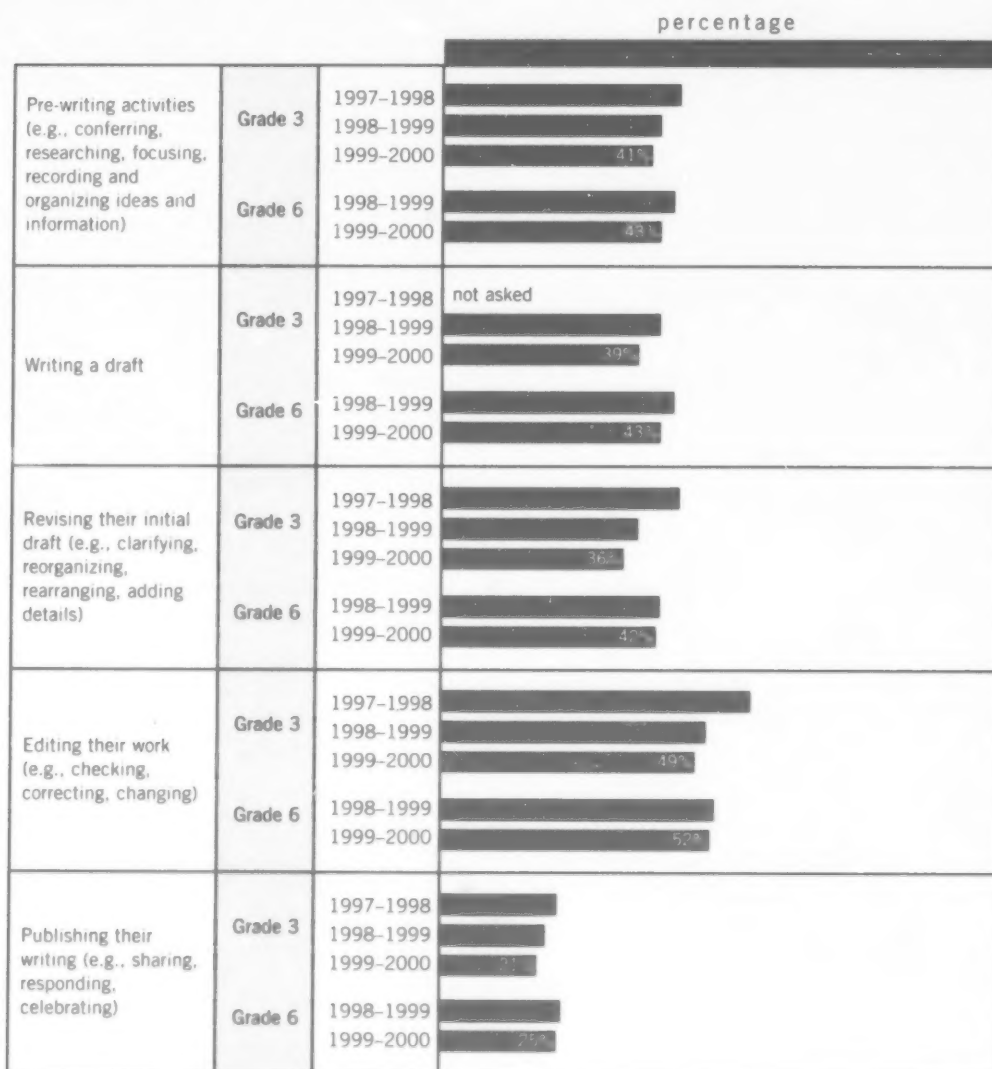
Teaching Key Writing Strategies

Teachers who indicate that **at least a few times a week** they teach their students:



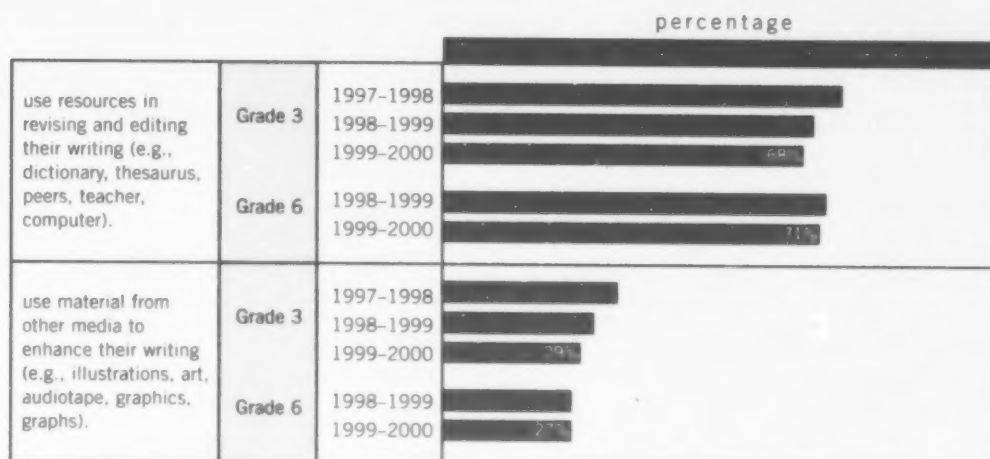
Using Writing Strategies (the Writing Process)

Teachers who indicate that **at least a few times a week** they have their students use the following stages of the writing process in their writing:

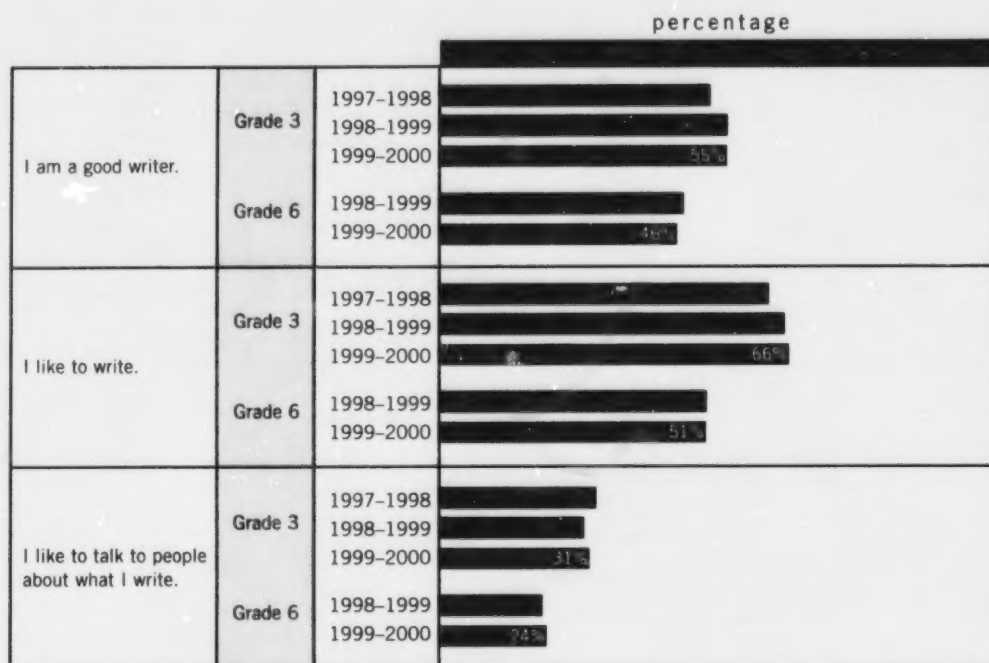


Using Resources and Materials

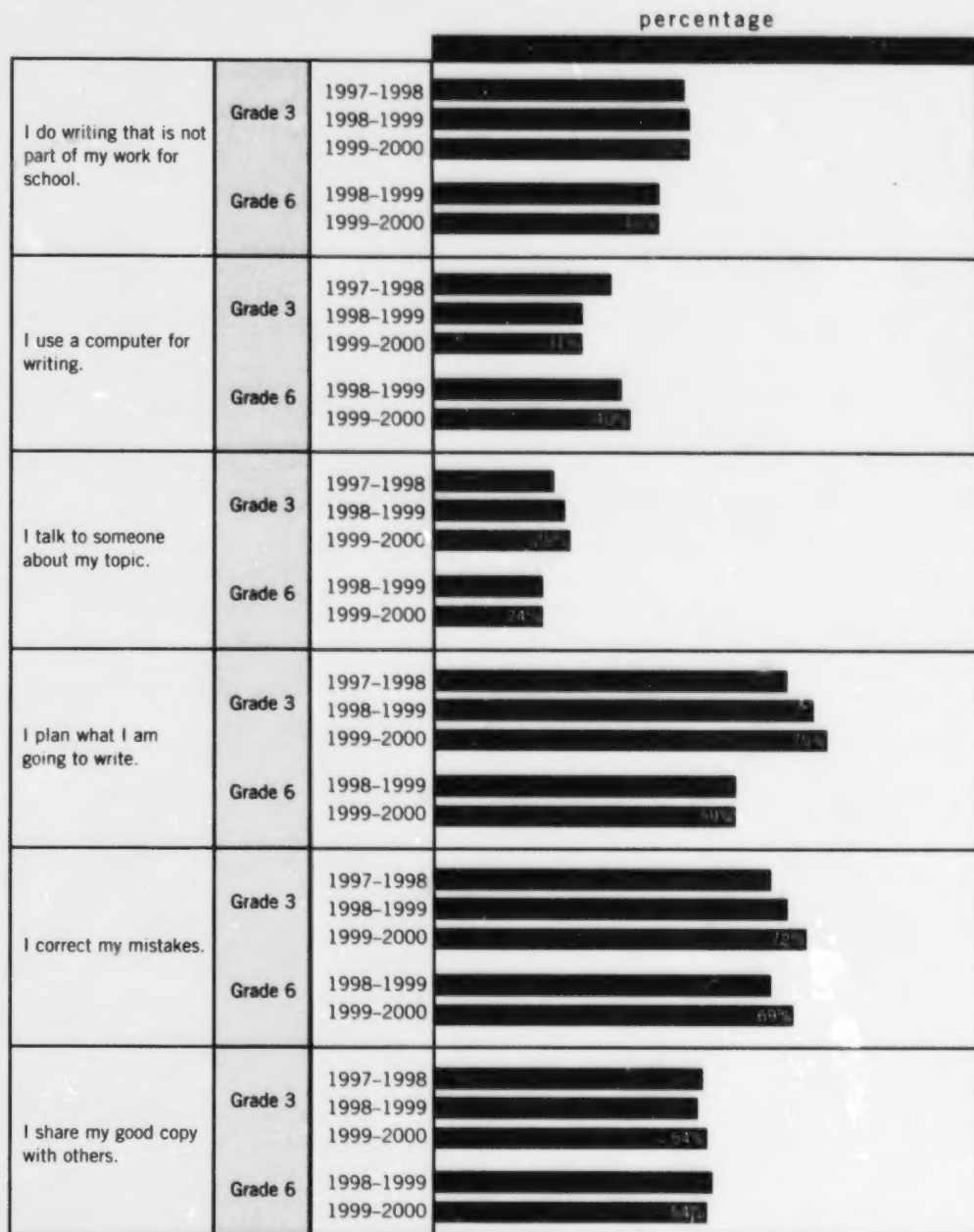
Teachers who indicate that **at least a few times a week** they have their students:



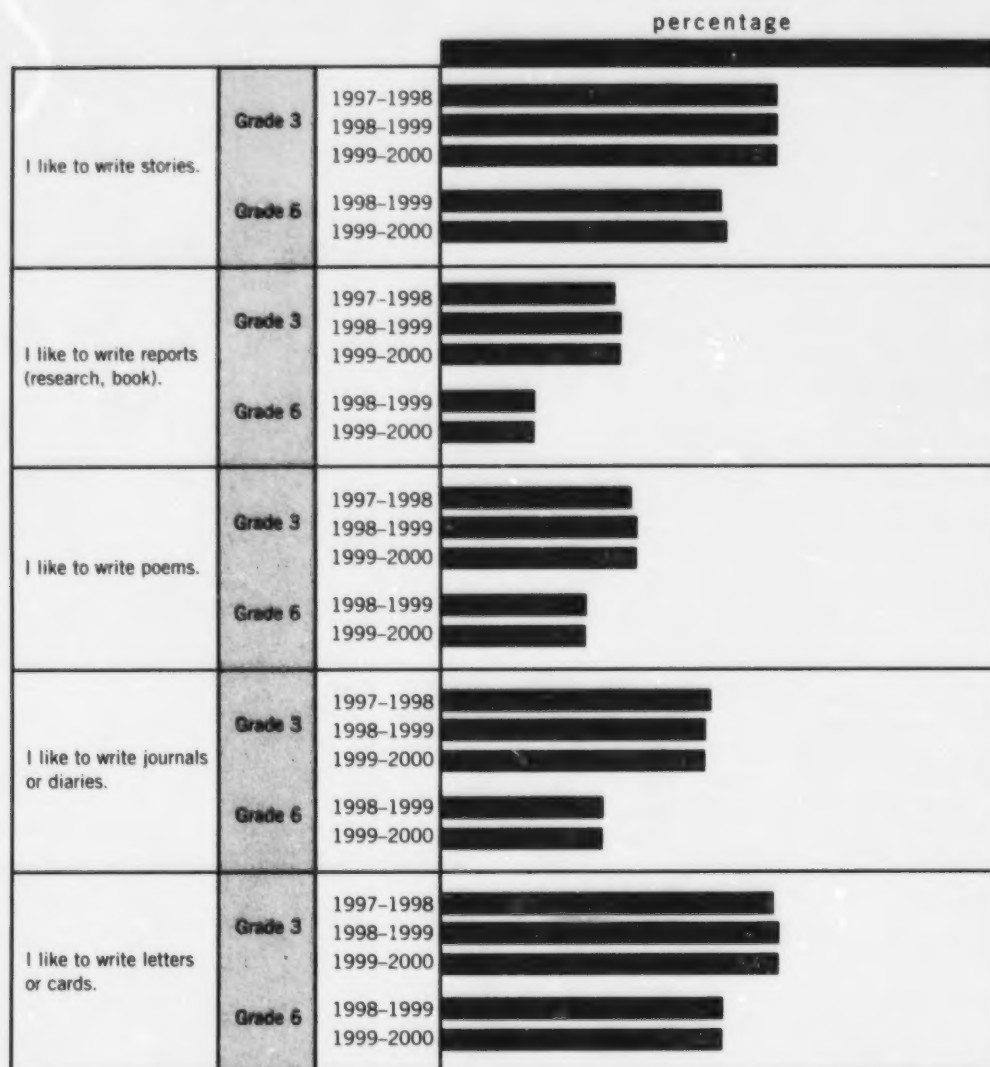
Relevant Findings from the Student Questionnaire

Student Attitudes Toward Writing

There are notable and consistent gender differences in attitudes in both grades. In Grade 3, the percentage of girls indicating they are good writers is 10 percentage points higher than boys and in Grade 6, 7 percentage points higher. In Grade 3, the percentage of girls indicating they like to write is 14 percentage points higher and in Grade 6, 16 percentage points higher. There is no difference between the percentage of girls and boys in either Grade 3 or Grade 6 indicating that they like to talk to people about what they write.

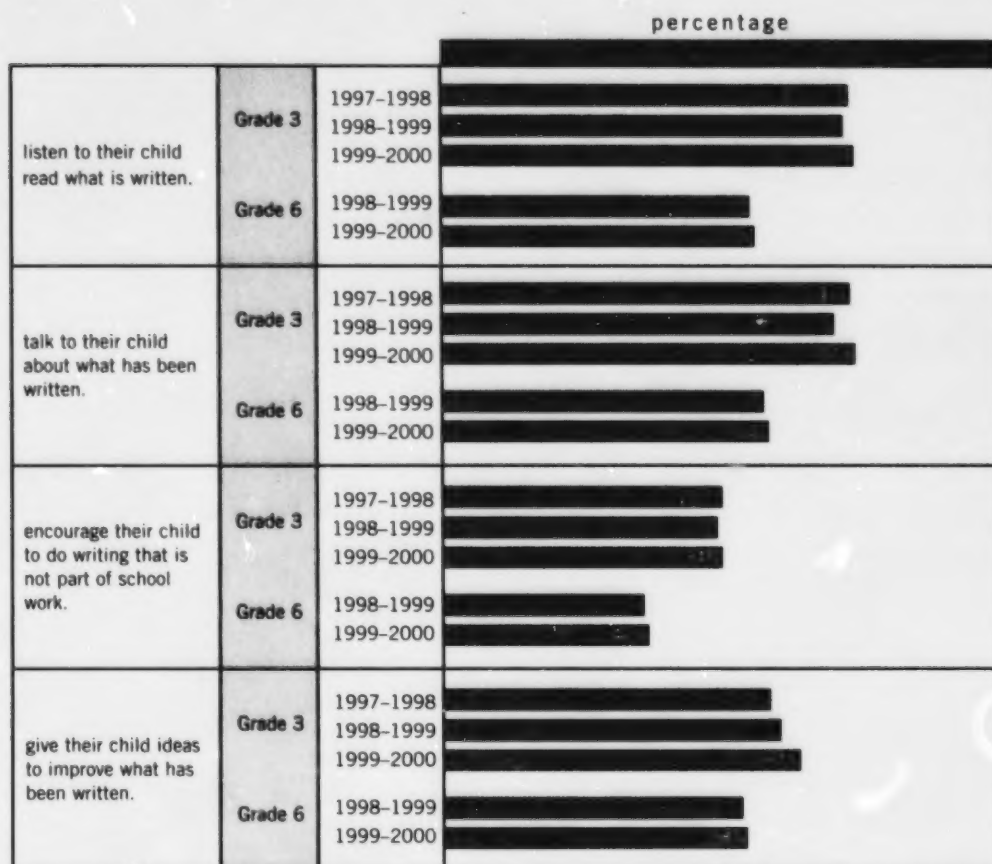
Student Writing Habits

There are some large and consistent gender differences in student writing habits in both grades. The proportion of Grade 3 and Grade 6 girls who indicate they do writing that is not part of their school work is 12 and 14 percentage points higher than the boys in the respective grades. Similarly, the proportion of Grade 3 and Grade 6 girls who indicate that they correct their mistakes, is respectively 7 and 11 percentage points higher than boys. Girls in both grades are much more likely to share their good copy with others. A slightly higher percentage of Grade 3 and Grade 6 boys indicate they use a computer for writing. The percentages of girls and boys who indicate they talk to someone about their topic or plan what they are going to write are similar in both grades.

Student Writing Preferences

There are some substantial and consistent gender differences in writing preferences in both grades. Fifty percent of Grade 3 girls and 40% of Grade 6 girls indicate that they like to write poems compared to 28% of Grade 3 boys and 20% of Grade 6 boys. The gap is even larger for writing journals and diaries. Sixty-seven percent of Grade 3 girls and 54% of Grade 6 girls indicate they like to write journals and diaries compared to only 36% and 13% of boys in those respective grades. Gender differences in liking to write stories and reports are consistent but not as marked.

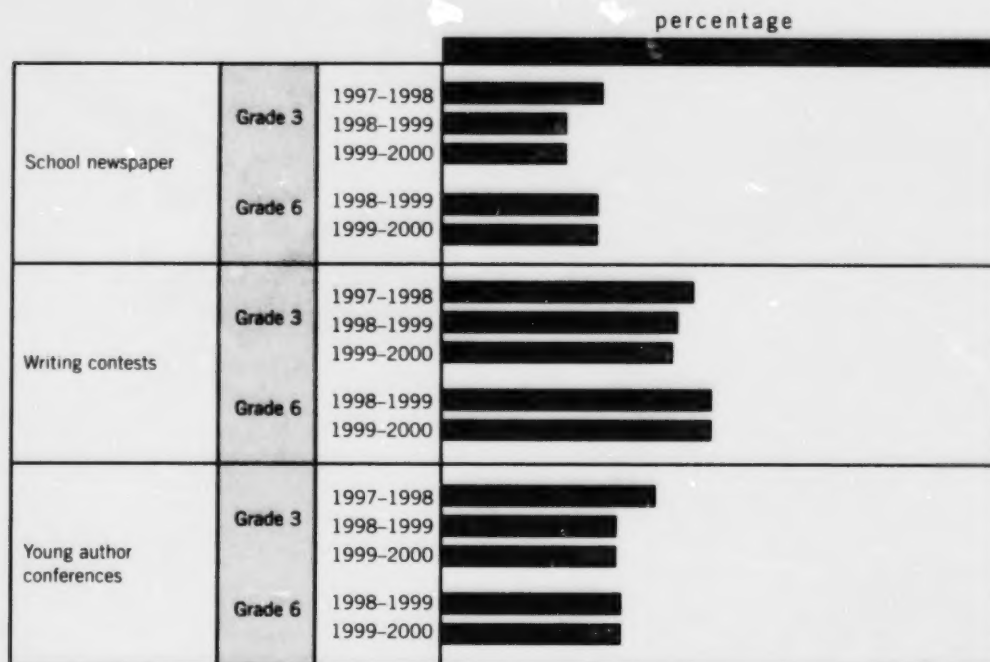
Relevant Findings from the Home Questionnaire

Parental Support for Writing*Parents who indicate that at least a few times a week they:*

Relevant Findings from the Principal Questionnaire

Schoolwide Writing Opportunities

Principals who indicate that their school has provided the following opportunities for students in the past 2 years:



Observations and Suggestions from Trained Teacher Markers at the Marking Sites

The trained teacher markers made observations and provided suggestions about students' work to enhance and improve student learning in writing. Their observations and suggestions focused on the knowledge and skills students need within the categories of writing. There is considerable similarity in the observations and suggestions made by Grade 3 and Grade 6 markers.

Observations Specific to Grade 3 Writing

1. In the category Reasoning, students need to focus on
 - understanding the purpose of the writing task,
 - connecting ideas to the purpose of the task and to each other,
 - rereading their writing,
 - ensuring that they stay focused on the purpose throughout the writing, and
 - developing ideas of some complexity that relate to the purpose of the writing task.
2. In the category Communication, students need to focus on
 - communicating ideas and information for specific purposes and audiences,
 - showing evidence of a personal voice,
 - including vocabulary specific to the topic, and
 - using a variety of simple and compound sentences.
3. In the category Organization of Ideas, students need to focus on
 - planning and organizing their writing,
 - ensuring that their writing has a clear beginning, middle and end,
 - organizing related sentences into short paragraphs, and
 - using a variety of connecting words to link ideas.
4. In the category Application of Language Conventions, students need to focus on
 - using adjectives and adverbs correctly,
 - attending to the correct spelling of high-frequency words, and
 - maintaining subject-verb agreement.

Observations Specific to Grade 6 Writing

1. In the category Reasoning, students need to focus on
 - understanding the purpose of the writing task,
 - developing, explaining and justifying ideas/opinions, and
 - developing ideas of some complexity and relating them to the purpose of the task and to each other.

2. In the category Communication, students need to focus on
 - using a variety of writing techniques appropriate to the audience,
 - writing more information and opinion pieces,
 - elaborating ideas using specific and descriptive vocabulary appropriate to the topic, and
 - using a variety of grade-appropriate sentence types and structures.
3. In the category Organization of Ideas, students need to focus on
 - organizing ideas, information and paragraphs logically.
4. In the category Application of Language Conventions, students need to focus on
 - using grade-appropriate punctuation accurately,
 - applying the rules of spelling accurately,
 - using adjectives, adverbs and subordinate clauses correctly, and
 - maintaining appropriate verb-tense sequence and noun-verb agreement through a piece of writing.

Data Highlights — Writing

Overall Writing Achievement

- Fifty-two percent of Grade 3 students and 48% of Grade 6 students are achieving at Levels 3 and 4 in writing. These are the same percentages as last year for both groups.
- In both Grade 3 and Grade 6, more girls than boys are achieving at Levels 3 and 4 in writing. In Grade 3, 60% of girls and 44% of boys are achieving at Levels 3 and 4, and in Grade 6, 58% of girls and 39% of boys are achieving at Levels 3 and 4.

Exemptions

- The percentage of students being exempted from the writing portion of the assessment shows an increasing year-to-year pattern in both Grade 3 and in Grade 6. In Grade 3 the percentage has increased over the past three years from 4% to 7%, with 8% of boys and 5% of girls being exempted. In Grade 6, the percentage has increased to 6% from 4% last year, with 7% of boys and 4% of girls being exempted.

Relevant Teacher Questionnaire Data

- Over 90% of Grade 3 and Grade 6 teachers indicate they are very, or somewhat, comfortable teaching and assessing the knowledge and skills required within each of the writing categories. This pattern has been consistent among Grade 3 teachers over three years and among Grade 6 teachers over two years.
- A high percentage of Grade 3 and Grade 6 teachers (71% to 94%) report using writing instruction strategies that focus on the knowledge and skills in the category Application of Language Conventions (spelling, punctuation and grammar). However, the percentage of

Grade 3 and Grade 6 teachers who report using writing process strategies that focus on the knowledge and skills in the other three categories, for example, revising and editing skills, is generally lower, at about 50%.

- Thirty-six percent of Grade 3 and Grade 6 teachers report that they have students write for different purposes and 23% write for different audiences, "at least weekly." These percentages have remained constant over the past two years for Grade 3 teachers.
- The most frequently used methods of assessing writing among both Grade 3 and Grade 6 teachers are writing comments on assigned student writing and spelling tests. The least frequent method for both groups is using assessment scales (rubrics). This pattern is consistent from year to year.

Relevant Student Questionnaire Data

- The percentage of Grade 3 students who indicate they like to write has increased slightly over the three-year period, from 63% to 66%, but boys are consistently lower at 59%, compared to girls at 73%. The percentage of Grade 6 students who indicate they like to write is consistently lower than Grade 3 students at 51%, with boys much lower at 43%, compared with girls at 59%.
- Slightly more than half of Grade 3 students and slightly less than half of Grade 6 students indicate that they are good writers. Girls seem to be much more confident of their writing abilities than boys.
- Fifty-one percent of Grade 3 students and 45% of Grade 6 students indicate that they read material that is not part of their school work. These percentages are consistent over time for both groups of students.
- Thirty-one percent of Grade 3 students and 40% of Grade 6 students use a computer for writing. For both grades, more boys than girls indicate they use a computer. These percentages have been stable over two years for both Grade 3 and Grade 6 students.
- Seventy-five percent of Grade 3 students and 59% of Grade 6 students report that they plan what they are going to write, and 72% of Grade 3 students and 69% of Grade 6 students indicate that they edit their writing. The percentages have increased over the three years for Grade 3 and remained stable over the two years for Grade 6.
- Thirty-one percent of Grade 3 students and 24% of Grade 6 students report that they do not like to talk about what they have written. This pattern is consistent for both groups over the period surveyed.
- Both Grade 3 and Grade 6 students indicate a stronger preference for writing stories and letters over writing reports, with more girls than boys liking all three types of writing.

Relevant Home Questionnaire Data

- Fifty-four percent of Grade 3 and 41% of Grade 6 parents indicate that they encourage their child to write materials that are not school-work related. This is a consistent pattern over time for both groups.
- Over 75% of Grade 3 parents over the past three years indicate that they listen to their child read what has been written, while over the past two years, 60% of Grade 6 parents indicate doing the same activity with their child.
- Seventy-seven percent of Grade 3 parents and 62% of Grade 6 parents indicate that they talk to their child about what has been written.
- Sixty-seven percent of Grade 3 parents and 58% of Grade 6 parents indicate they give their child ideas to improve what has been written. This has been a consistent pattern over the period surveyed for both groups.

Relevant Principal Questionnaire Data

- Twenty-six percent of principals report that their Grade 3 students have access to a school newspaper, and 32% report that their Grade 6 students have such access.

Specific Recommendations for Writing

Writing is an integrated activity that combines knowledge and skills in the four writing categories. The writer develops and communicates ideas and information for specific purposes and to specific audiences. Effective writing requires the student to use an appropriate form, organizational structure, a variety of suitable writing techniques and correct language conventions.

The following recommendations are based on

- the 1999-2000 overall and category student achievement results,
- the patterns and trends emerging from the year-to-year overall and category results,
- the year-to-year patterns in the collection of data from the various questionnaires, and
- the suggestions from the trained teacher markers at the EQAO writing marking centres.

A number of the recommendations reinforce and build upon the recommendations made in last year's provincial report:

EQAO recommends that

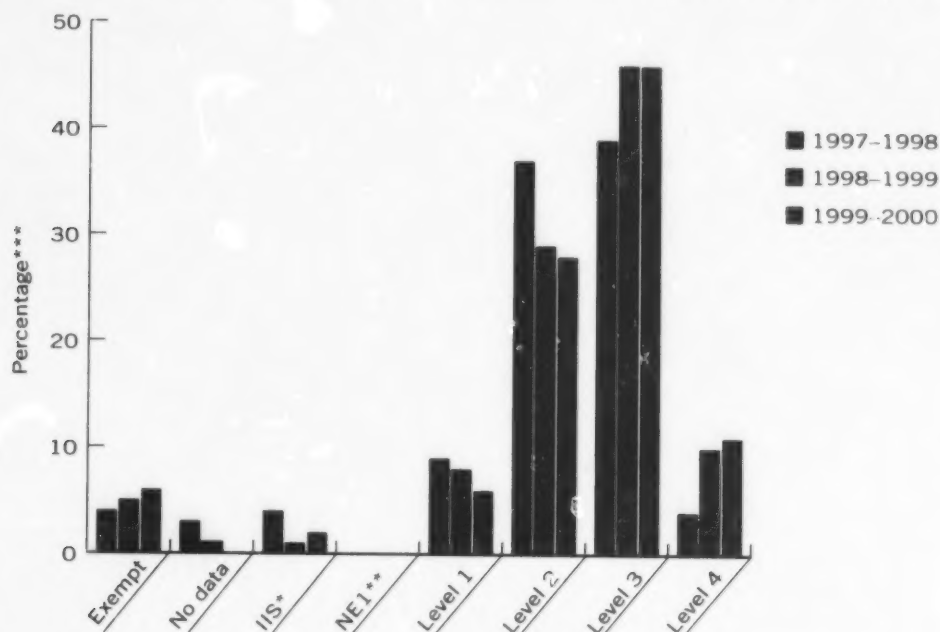
1. Teachers focus their writing instruction and assessment more specifically on the overall and specific expectations for the grade they are teaching, while at the same time ensuring that they are implementing the continuum of writing skills development across grades and the stages of the writing process described in *The Ontario Curriculum, Grades 1-8*.

2. Teachers provide students with multiple and regular opportunities to express their ideas clearly (Reasoning) by developing skill in focusing on the purpose of the writing task, maintaining their focus on the purpose, and developing ideas and relating them to the purpose and the ideas to each other. For example, have students
 - show that they understand the topic, and
 - stay on topic throughout the writing.
3. Teachers provide students with multiple and regular opportunities to communicate clearly (Communication) by developing skill in using writing techniques and style appropriate to the purpose and the intended audience. For example, have students use
 - appropriate and varied sentences,
 - appropriate imagery,
 - appropriate and correct vocabulary, and
 - an appropriate voice.
4. Teachers provide students with multiple and regular opportunities to organize their writing clearly (Organization of Ideas), by developing skill in using appropriate organizers (both visual and written) for different kinds of writing. For example, have students
 - use appropriate words to connect ideas,
 - organize sentences into a paragraph and, in junior grades, link paragraphs in longer stories and information pieces, and
 - use appropriate visual effects such as underlining, colour, pictures and graphs.
5. Teachers ensure students are able to use writing conventions correctly for the grade level (Application of Language Conventions). For example, have students correctly use
 - the exclamation mark and correct subject-verb agreement in Grade 3, and
 - the colon and subordinate clauses in Grade 6.
6. Teachers provide students with more frequent opportunities to write for a wide variety of purposes and audiences that are appropriate to their interests and stage of development and to their writing needs.
7. Teachers focus on the stages of the writing process, particularly the pre-writing and planning stages, which provide students with opportunities to talk about and organize their ideas before writing their initial draft.
8. Teachers teach students how to revise and edit their writing, with particular emphasis on doing this independently.
9. Teachers have students display, read aloud, discuss and find various other ways of "publishing" their writing to help them become more confident writers.

10. Teachers, working with the principal, parents, the school improvement planning committee and school council, provide more opportunities for students to do more writing beyond school-assigned writing, and to "celebrate" and "publish" writing more.
11. That teachers, working with the principal, recognize the cross-curricular nature of their writing program by embedding instruction in writing and writing-process skills in writing activities in all subjects.

Results, Analysis and Recommendations for Mathematics

Overall Student Achievement — Grade 3 Mathematics, 1997-1998 to 1999-2000



The percentage of students achieving at Levels 3 and 4 has increased over the past three years from 43% in 1997-1998 to 57% in 1999-2000. The percentage of students achieving at Level 4 has increased over the past three years from 4% in 1997-1998 to 11% in 1999-2000. In this year's assessment, 46% of students achieved at Level 3, showing improvement over the 1997-1998 results when 39% of the students achieved at Level 3. The percentage of students achieving at Levels 1 and 2 has decreased over the three-year period from 46% in 1997-1998 to 34% in 1999-2000.

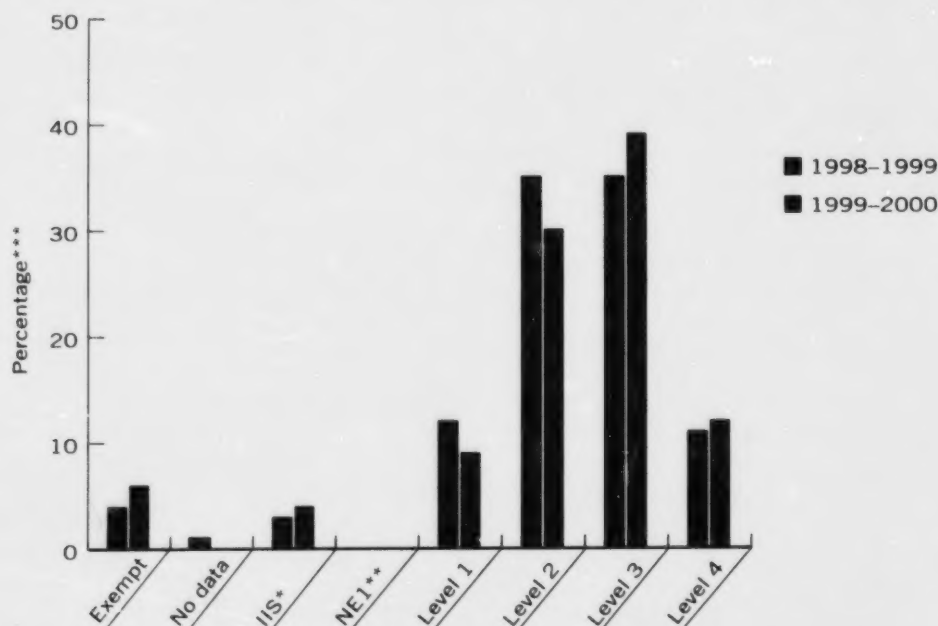
In 1999-2000, 8% of Grade 3 students were not assigned a level of achievement. The percentage of students for whom there are no data has decreased from 3% in 1997-1998 to less than half of 1% in 1999-2000. The percentage of students who provided insufficient information to be scored decreased from 4% in 1997-1998 to 1% in 1998-1999 and increased slightly to 2% in 1999-2000. The percentage of students exempted from the mathematics portion of the assessment has increased each year from 4% in 1997-1998 to 5% in 1998-1999 to 6% in 1999-2000.

*Insufficient Information to Score

**Not Enough Evidence for Level 1

***Unless otherwise noted, all percentages are based on Method 1 reporting as described in the Results Summary section.

Overall Student Achievement — Grade 6 Mathematics, 1998-1999 and 1999-2000



The percentage of students achieving at Levels 3 and 4 has increased from 46% in 1998-1999 to 51% in 1999-2000. The percentage of students achieving at Level 4 has increased slightly over the two years from 11% in 1998-1999 to 12% in 1999-2000. In this year's assessment, 39% of students achieved at Level 3, showing a notable improvement over the 1998-1999 results when 35% of the students achieved at Level 3. The percentage of students achieving at Levels 1 and 2 has decreased over the two years from 47% in 1998-1999 to 39% in 1999-2000.

In 1999-2000, 10% of the Grade 6 students were not assigned a level of achievement. The percentage of students who provided insufficient information to be scored has increased from 3% in 1998-1999 to 4% in 1999-2000. The percentage of students exempted from the mathematics portion of the assessment has increased over the two years from 4% in 1998-1999 to 6% in 1999-2000.

Grade 3 and Grade 6 Overall Achievement in Math at Levels 3 and 4 by Subgroups, 1999-2000

	Grade 3		Grade 6	
Gender	Girls 60%	Boys 55%	Girls 54%	Boys 49%
Language	Non-ESL 58%	ESL 36%	Non-ESL 52%	ESL 29%
Special Education Support	Not Receiving Support 64%	Receiving Support 23%	Not Receiving Support 58%	Receiving Support 13%

*Insufficient Information to Score

**Not Enough Evidence for Level 1

***Unless otherwise noted, all percentages are based on Method 1 reporting as described in the Results Summary section.

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In both grades, a higher percentage of girls than boys achieved at Levels 3 and 4. More non-ESL students than ESL students achieved higher results. Students not receiving special education support achieved higher results than students receiving special education support.

*Student Achievement — Grade 3 Mathematics by Category, 1999-2000**

It is useful for school boards to analyze their mathematics category results in terms of the provincial results and for schools to analyze their mathematics category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NEI**	Level 1	Level 2	Level 3	Level 4
Problem Solving: Chooses and carries out strategies and applies them correctly								
Method 1	6	1	1	1	20	42	28	2
Method 2	N/A	N/A	1	1	21	45	30	3
Understanding of Concepts: Uses and explains required concepts and incorporates mathematical ideas and relationships								
Method 1	6	1	1	1	15	36	39	2
Method 2	N/A	N/A	1	1	17	38	42	2
Application of Mathematical Procedures: Selects and accurately applies procedures (e.g., making a graph) and operations (e.g., adding and multiplying)								
Method 1	6	1	1	< 1	15	45	29	2
Method 2	N/A	N/A	1	< 1	16	49	32	2
Communication of Required Knowledge: Uses clear explanations and correct mathematical terms and symbols; justifies reasonableness of solutions								
Method 1	6	1	1	1	22	41	26	2
Method 2	N/A	N/A	1	1	23	45	28	2

The highest student achievement is in the category Understanding of Concepts with 41% of the students achieving at Levels 3 and 4. In the categories Problem Solving, Application of Mathematical Procedures and Communication of Required Knowledge, the percentage of students achieving at Levels 3 and 4 is approximately 30%.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NEI = Not Enough Evidence for Level 1



In both grades, a higher percentage of girls than boys achieved at Levels 3 and 4. More non-ESL students than ESL students achieved higher results. Students not receiving special education support achieved higher results than students receiving special education support.

*Student Achievement — Grade 3 Mathematics by Category, 1999-2000**

It is useful for school boards to analyze their mathematics category results in terms of the provincial results and for schools to analyze their mathematics category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Problem Solving: Chooses and carries out strategies and applies them correctly								
Method 1	6	1	1	1	20	42	28	2
Method 2	N/A	N/A	1	1	21	45	30	3
Understanding of Concepts: Uses and explains required concepts and incorporates mathematical ideas and relationships								
Method 1	6	1	1	1	15	36	39	2
Method 2	N/A	N/A	1	1	17	38	42	2
Application of Mathematical Procedures: Selects and accurately applies procedures (e.g., making a graph) and operations (e.g., adding and multiplying)								
Method 1	6	1	1	< 1	15	45	29	2
Method 2	N/A	N/A	1	< 1	16	49	32	2
Communication of Required Knowledge: Uses clear explanations and correct mathematical terms and symbols; justifies reasonableness of solutions								
Method 1	6	1	1	1	22	41	26	2
Method 2	N/A	N/A	1	1	23	45	28	2

The highest student achievement is in the category Understanding of Concepts with 41% of the students achieving at Levels 3 and 4. In the categories Problem Solving, Application of Mathematical Procedures and Communication of Required Knowledge, the percentage of students achieving at Levels 3 and 4 is approximately 30%.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

Student Achievement — Grade 6 Mathematics by Category, 1999-2000*

It is useful for school boards to analyze their mathematics category results in terms of the provincial results and for schools to analyze their mathematics category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NET**	Level 1	Level 2	Level 3	Level 4
Problem Solving: Analyzes and uses appropriate strategies that lead to accurate solutions								
Method 1	6	1	2	< 1	13	40	34	5
Method 2	N/A	N/A	2	< 1	14	42	37	5
Understanding of Concepts: Uses and explains required concepts and incorporates mathematical ideas and relationships								
Method 1	6	1	1	< 1	9	39	40	4
Method 2	N/A	N/A	1	< 1	10	42	43	4
Application of Mathematical Procedures: Selects and accurately applies procedures (e.g., making a graph) and operations (e.g., adding and multiplying)								
Method 1	6	1	1	< 1	8	34	46	4
Method 2	N/A	N/A	1	< 1	9	37	49	4
Communication of Required Knowledge: Uses clear explanations and appropriate mathematical language, analyzes the reasonableness of solutions and gives clear and precise justifications								
Method 1	6	1	3	< 1	15	43	29	3
Method 2	N/A	N/A	4	< 1	16	46	31	3

The highest student achievement is in the category Application of Mathematical Procedures, with 50% of the students achieving at Levels 3 and 4. In the category Understanding of Concepts, 44% of students achieved at Levels 3 and 4. In the category Problem Solving, 39% of students achieved at Levels 3 and 4. In the category Communication of Required Knowledge, slightly more than 30% of students achieved at Levels 3 and 4.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

Student Achievement — Grade 3 Mathematics by Strand, 1999-2000*

It is useful for school boards to analyze their mathematics strand results in terms of the provincial results and for schools to analyze their mathematics strand results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Strands	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Number Sense and Numeration: Adding, subtracting, multiplying and dividing whole numbers and using numbers to describe and represent relationships								
Method 1	6	1	< 1	< 1	5	22	64	2
Method 2	N/A	N/A	< 1	< 1	5	24	69	2
Geometry and Spatial Sense: Using and applying knowledge of spatial relationships to identify and describe characteristics of 2- and 3-dimensional figures								
Method 1	6	1	1	< 1	10	37	44	1
Method 2	N/A	N/A	1	< 1	10	40	48	1
Measurement: Estimating, measuring and recording using standard and non-standard units								
Method 1	6	1	2	1	13	32	43	2
Method 2	N/A	N/A	2	1	14	35	46	2
Patterning and Algebra: Identifying, extending and creating patterns with shapes and numbers								
Method 1	6	1	1	< 1	10	38	42	2
Method 2	N/A	N/A	1	< 1	10	41	45	3
Data Management and Probability: Using methods to gather, interpret, display and communicate information and predicting the likelihood of events								
Method 1	6	1	2	1	15	36	37	1
Method 2	N/A	N/A	2	1	16	39	40	2

The strongest student performance is in the strand Number Sense and Numeration, with 66% of students achieving at Levels 3 and 4. In the strands Geometry and Spatial Sense, and Measurement, 45% of students achieved at Levels 3 and 4. In the strand Patterning and Algebra, 44% achieved at Levels 3 and 4, and in the strand Data Management and Probability, 38% of students achieved Levels 3 and 4.

*Strand scores are not adjusted for year-to-year differences in assessment.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

*Student Achievement — Grade 6 Mathematics by Category, 1999-2000**

It is useful for school boards to analyze their mathematics category results in terms of the provincial results and for schools to analyze their mathematics category results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Categories	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Problem Solving: Analyzes and uses appropriate strategies that lead to accurate solutions								
Method 1	6	1	2	< 1	13	40	34	5
Method 2	N/A	N/A	2	< 1	14	42	37	5
Understanding of Concepts: Uses and explains required concepts and incorporates mathematical ideas and relationships								
Method 1	6	1	1	< 1	9	39	40	4
Method 2	N/A	N/A	1	< 1	10	42	43	4
Application of Mathematical Procedures: Selects and accurately applies procedures (e.g., making a graph) and operations (e.g., adding and multiplying)								
Method 1	6	1	1	< 1	8	34	46	4
Method 2	N/A	N/A	1	< 1	9	37	49	4
Communication of Required Knowledge: Uses clear explanations and appropriate mathematical language, analyzes the reasonableness of solutions and gives clear and precise justifications								
Method 1	6	1	3	< 1	15	43	29	3
Method 2	N/A	N/A	4	< 1	16	46	31	3

The highest student achievement is in the category Application of Mathematical Procedures, with 50% of the students achieving at Levels 3 and 4. In the category Understanding of Concepts, 44% of students achieved at Levels 3 and 4. In the category Problem Solving, 39% of students achieved at Levels 3 and 4. In the category Communication of Required Knowledge, slightly more than 30% of students achieved at Levels 3 and 4.

*Category scores are not adjusted for year-to-year differences in assessments.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

*Student Achievement — Grade 3 Mathematics by Strand, 1999-2000**

It is useful for school boards to analyze their mathematics strand results in terms of the provincial results and for schools to analyze their mathematics strand results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Strands	Exempt	No Data	IIS[†]	NEI[†]	Level 1	Level 2	Level 3	Level 4
Number Sense and Numeration: Adding, subtracting, multiplying and dividing whole numbers and using numbers to describe and represent relationships								
Method 1	6	1	< 1	< 1	5	22	64	2
Method 2	N/A	N/A	< 1	< 1	5	24	69	2
Geometry and Spatial Sense: Using and applying knowledge of spatial relationships to identify and describe characteristics of 2- and 3-dimensional figures								
Method 1	6	1	1	< 1	10	37	44	1
Method 2	N/A	N/A	1	< 1	10	40	48	1
Measurement: Estimating, measuring and recording using standard and non-standard units								
Method 1	6	1	2	1	13	32	43	2
Method 2	N/A	N/A	2	1	14	35	46	2
Patterning and Algebra: Identifying, extending and creating patterns with shapes and numbers								
Method 1	6	1	1	< 1	10	38	42	2
Method 2	N/A	N/A	1	< 1	10	41	45	3
Data Management and Probability: Using methods to gather, interpret, display and communicate information and predicting the likelihood of events								
Method 1	6	1	2	1	15	36	37	1
Method 2	N/A	N/A	2	1	16	39	40	2

The strongest student performance is in the strand Number Sense and Numeration, with 66% of students achieving at Levels 3 and 4. In the strands Geometry and Spatial Sense, and Measurement, 45% of students achieved at Levels 3 and 4. In the strand Patterning and Algebra, 44% achieved at Levels 3 and 4, and in the strand Data Management and Probability, 38% of students achieved Levels 3 and 4.

*Strand scores are not adjusted for year-to-year differences in assessment.

[†]IIS = Insufficient Information to Score; NEI = Not Enough Evidence for Level 1

*Student Achievement — Grade 6 Mathematics by Strand, 1999-2000**

It is useful for school boards to analyze their mathematics strand results in terms of the provincial results and for schools to analyze their mathematics strand results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

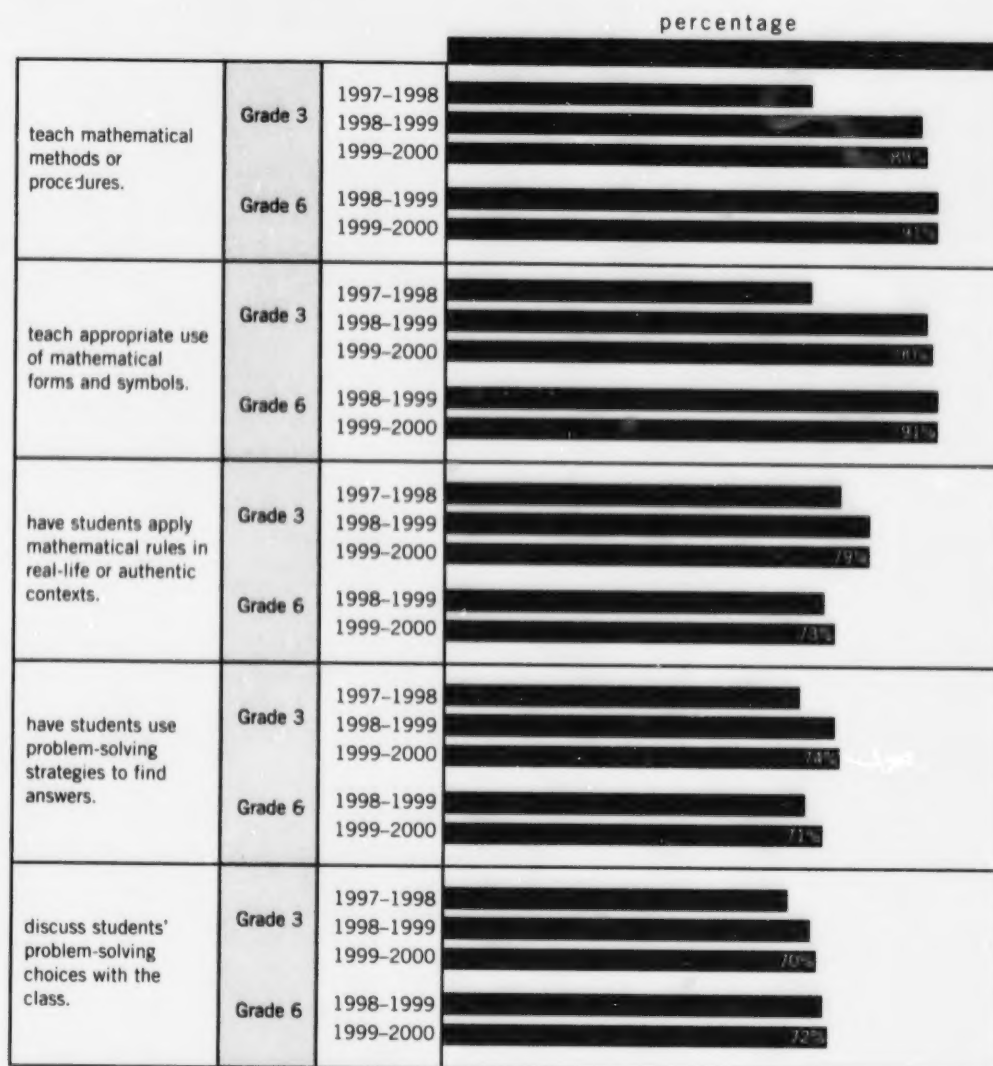
Knowledge/Skills Strands	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Number Sense and Numeration: Adding, subtracting, multiplying and dividing numbers to describe and represent relationships								
Method 1	6	1	1	< 1	9	35	41	7
Method 2	N/A	N/A	1	< 1	10	38	44	7
Geometry and Spatial Sense: Using and applying knowledge of spatial relationships to identify, describe, compare, classify, and analyze geometric properties and relationships								
Method 1	6	1	1	< 1	8	39	41	3
Method 2	N/A	N/A	1	< 1	9	42	44	3
Measurement: Estimating, measuring, calculating, comparing and recording using standard units								
Method 1	6	1	1	1	13	39	34	6
Method 2	N/A	N/A	1	1	14	42	37	6
Patterning and Algebra: Identifying, extending, creating and analyzing patterns and justifying pattern rules								
Method 1	6	1	1	< 1	8	33	44	7
Method 2	N/A	N/A	1	< 1	9	36	47	7
Data Management and Probability: Using methods to gather, analyze, display and communicate information and examining probability concepts								
Method 1	6	1	1	< 1	10	38	37	7
Method 2	N/A	N/A	1	< 1	10	41	40	7

The strongest student performance is in the strand Patterning and Algebra, with 51% of the students achieving at Levels 3 and 4. In the strand Number Sense and Numeration, 48% of the students achieved at Levels 3 and 4. In the two strands Geometry and Spatial Sense, and Data Management and Probability, 44% of the students achieved at Levels 3 and 4. In the strand Measurement, 40% of the students achieved at Levels 3 and 4.

*Strand scores are not adjusted for year-to-year differences in assessment.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

Relevant Findings from the Teacher Questionnaire

Teaching Strategies and Learning Activities*Teachers who indicate that at least a few times a week they:*

continued...

*Student Achievement — Grade 6 Mathematics by Strand, 1999-2000**

It is useful for school boards to analyze their mathematics strand results in terms of the provincial results and for schools to analyze their mathematics strand results both in terms of the provincial results and their school board results. School boards and schools can then use this comparative information to determine relative strengths and weaknesses in their students' achievement in mathematics and to revise and update their school board Action Plan for Improvement and their individual school Action Plan for Improvement.

Knowledge/Skills Strands	Exempt	No Data	IIS**	NE1**	Level 1	Level 2	Level 3	Level 4
Number Sense and Numeration: Adding, subtracting, multiplying and dividing numbers to describe and represent relationships								
Method 1	6	1	1	< 1	9	35	41	7
Method 2	N/A	N/A	1	< 1	10	38	44	7
Geometry and Spatial Sense: Using and applying knowledge of spatial relationships to identify, describe, compare, classify, and analyze geometric properties and relationships								
Method 1	6	1	1	< 1	8	39	41	3
Method 2	N/A	N/A	1	< 1	9	42	44	3
Measurement: Estimating, measuring, calculating, comparing and recording using standard units								
Method 1	6	1	1	1	13	39	34	6
Method 2	N/A	N/A	1	1	14	42	37	6
Patterning and Algebra: Identifying, extending, creating and analyzing patterns and justifying pattern rules								
Method 1	6	1	1	< 1	8	33	44	7
Method 2	N/A	N/A	1	< 1	9	36	47	7
Data Management and Probability: Using methods to gather, analyze, display and communicate information and examining probability concepts								
Method 1	6	1	1	< 1	10	38	37	7
Method 2	N/A	N/A	1	< 1	10	41	40	7

The strongest student performance is in the strand Patterning and Algebra, with 51% of the students achieving at Levels 3 and 4. In the strand Number Sense and Numeration, 48% of the students achieved at Levels 3 and 4. In the two strands Geometry and Spatial Sense, and Data Management and Probability, 44% of the students achieved at Levels 3 and 4. In the strand Measurement, 40% of the students achieved at Levels 3 and 4.

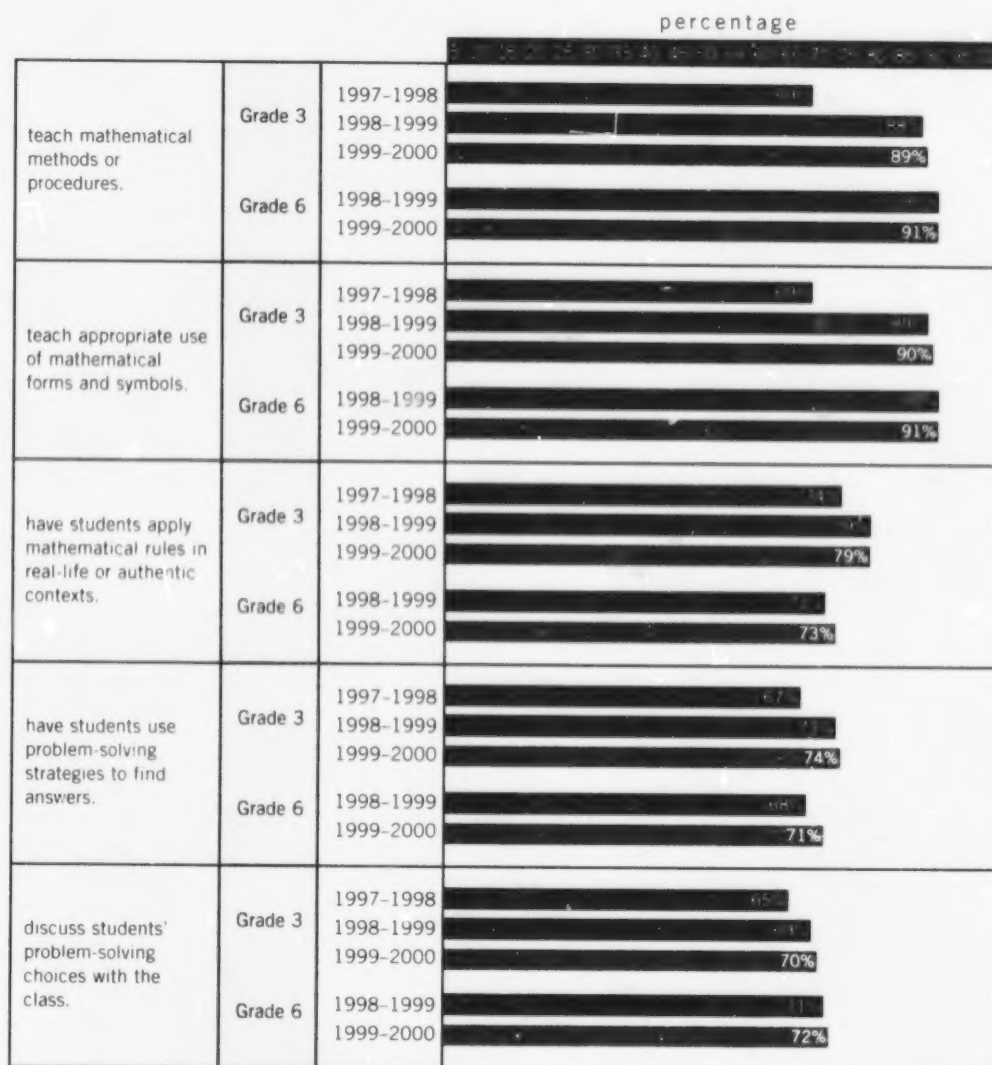
*Strand scores are not adjusted for year-to-year differences in assessment.

**IIS = Insufficient Information to Score; NE1 = Not Enough Evidence for Level 1

Relevant Findings from the Teacher Questionnaire

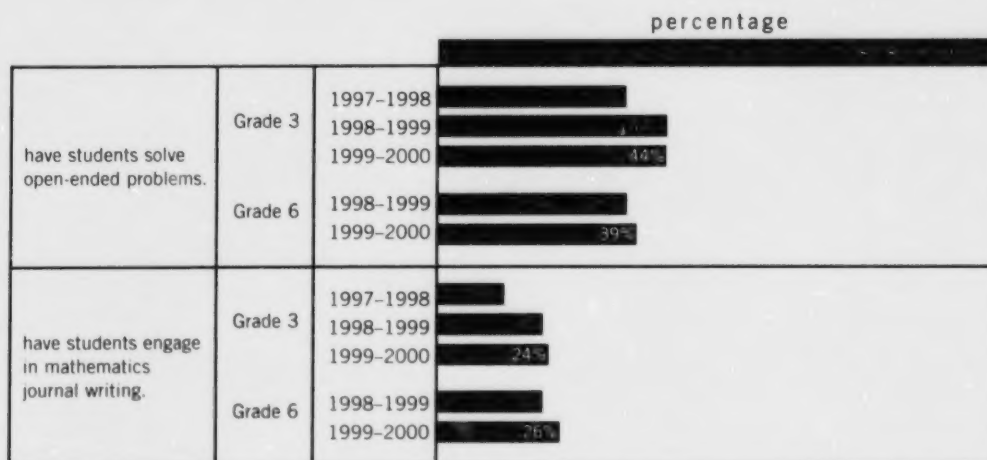
Teaching Strategies and Learning Activities

Teachers who indicate that **at least a few times a week** they:

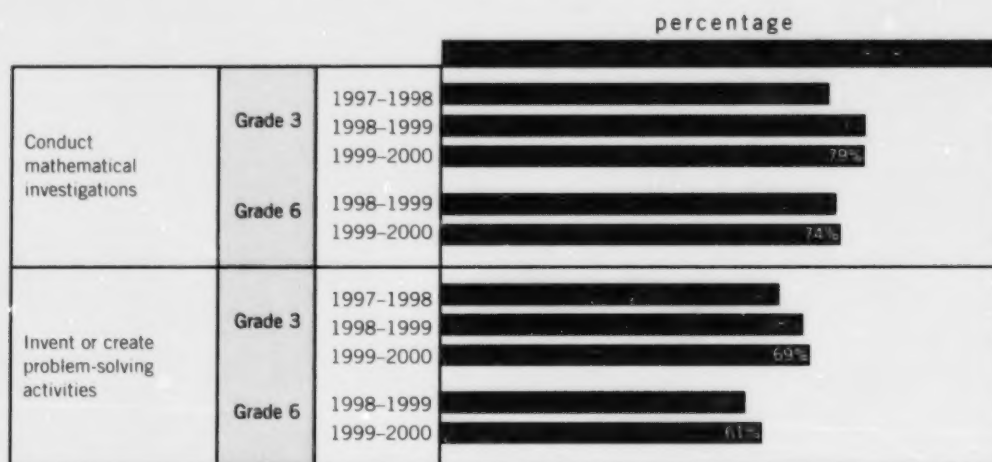


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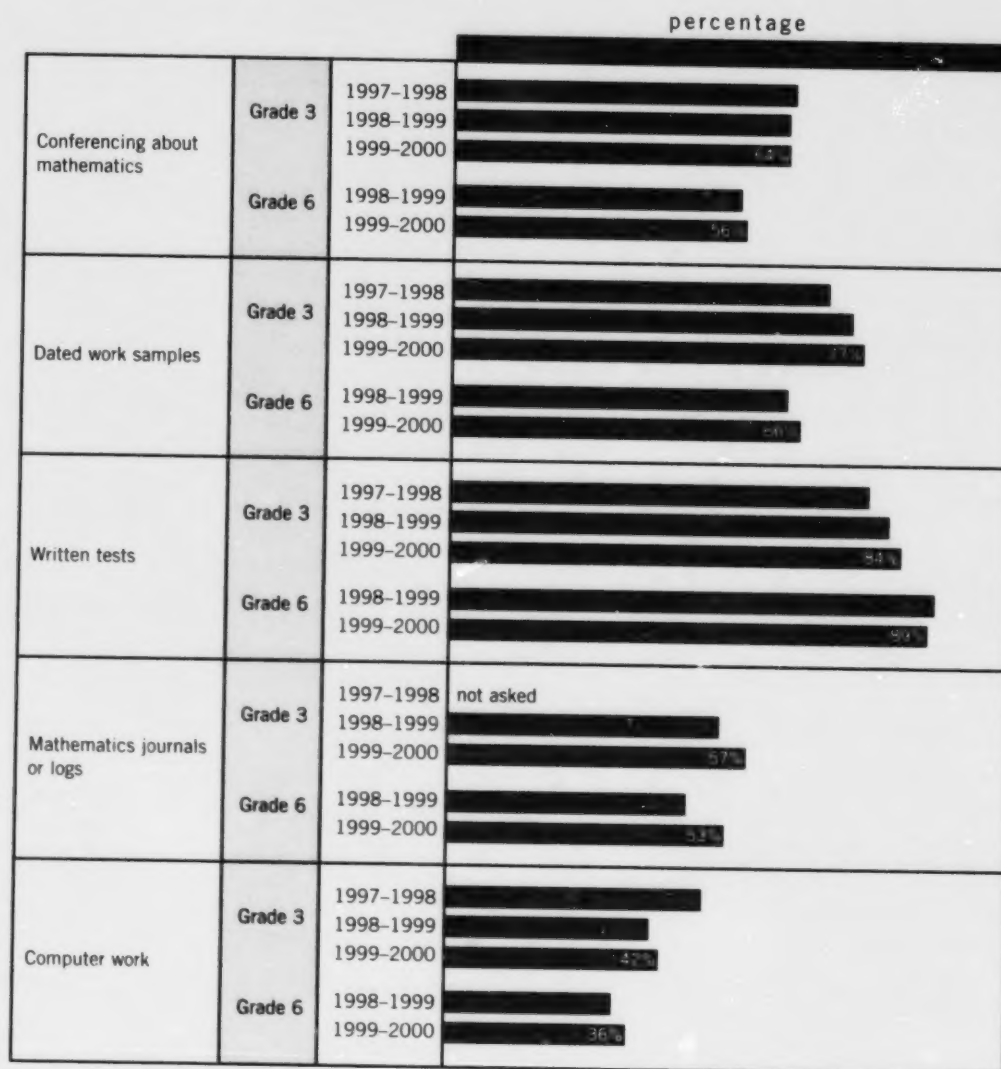
Teachers who indicate that **at least a few times a week** they (continued):



Teachers who indicate that **at least a few times a month** they have their students engage in the following mathematics activities:

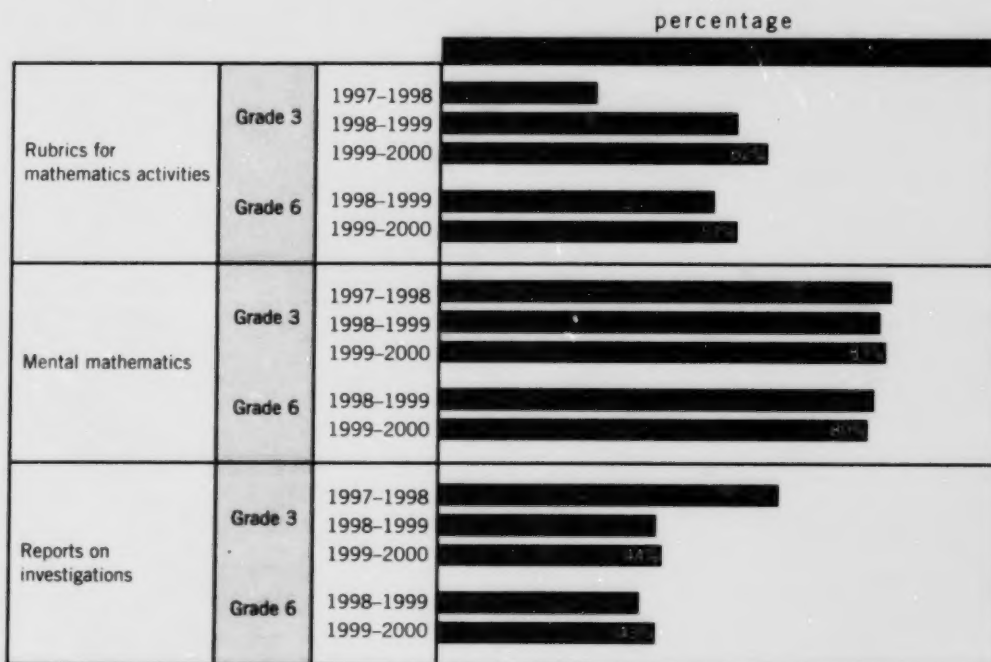


Teachers who indicate that **at least a few times a month** they use the following strategies in assessing their students' progress in mathematics:



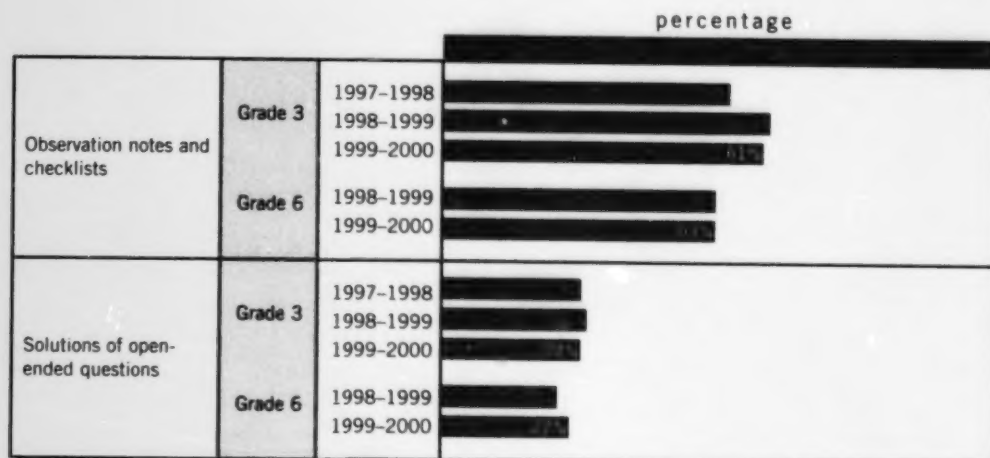
continued...

Teachers who indicate that **at least a few times a month** they use the following strategies in assessing their students' progress in mathematics (continued):

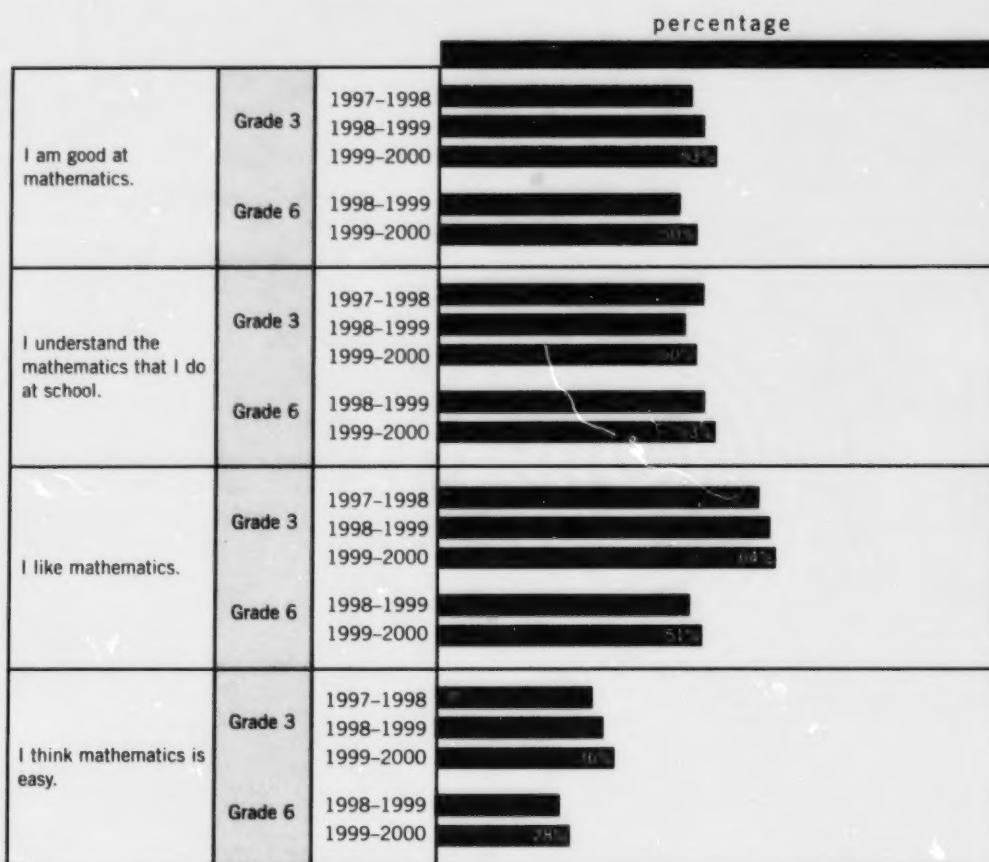


Assessing Mathematics

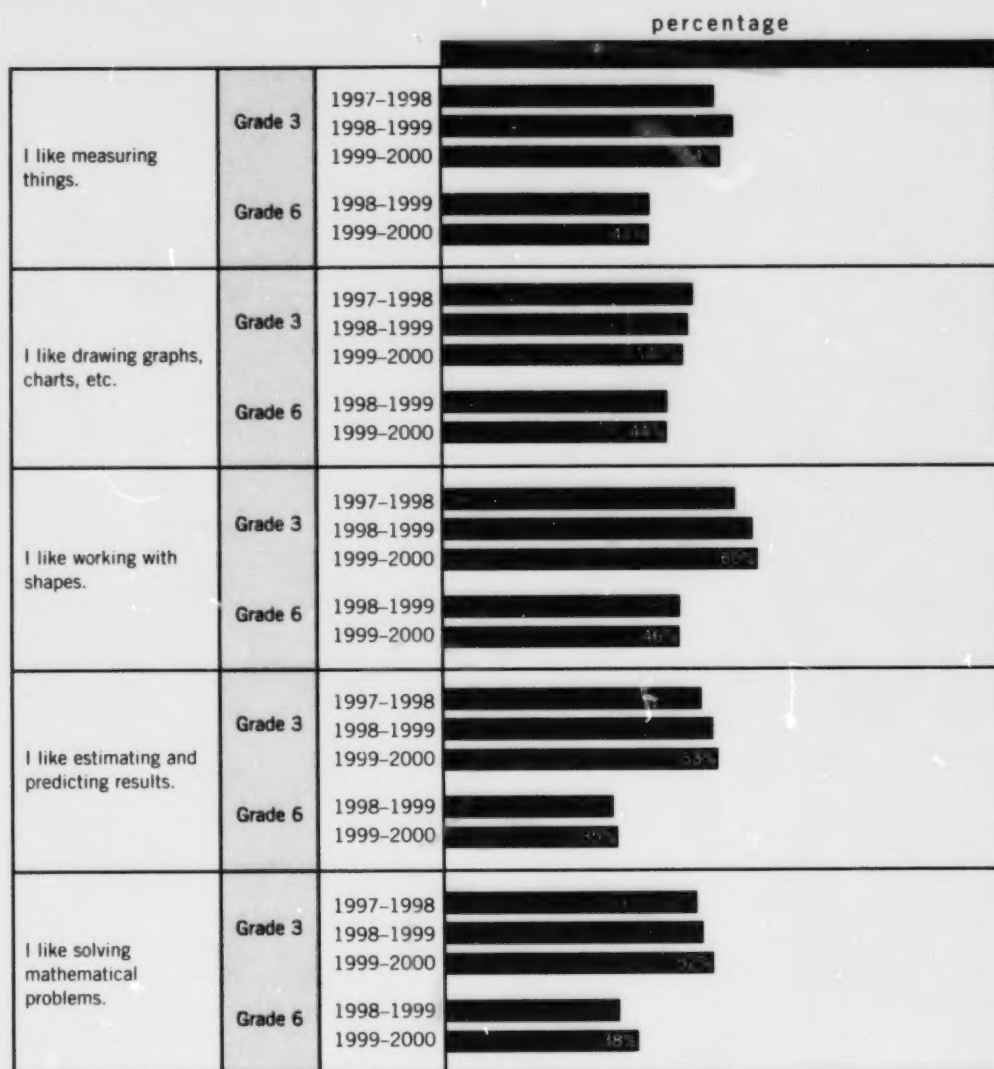
Teachers who indicate that **at least a few times a week** they use the following strategies in assessing their students' progress in mathematics:



Relevant Findings from the Student Questionnaire

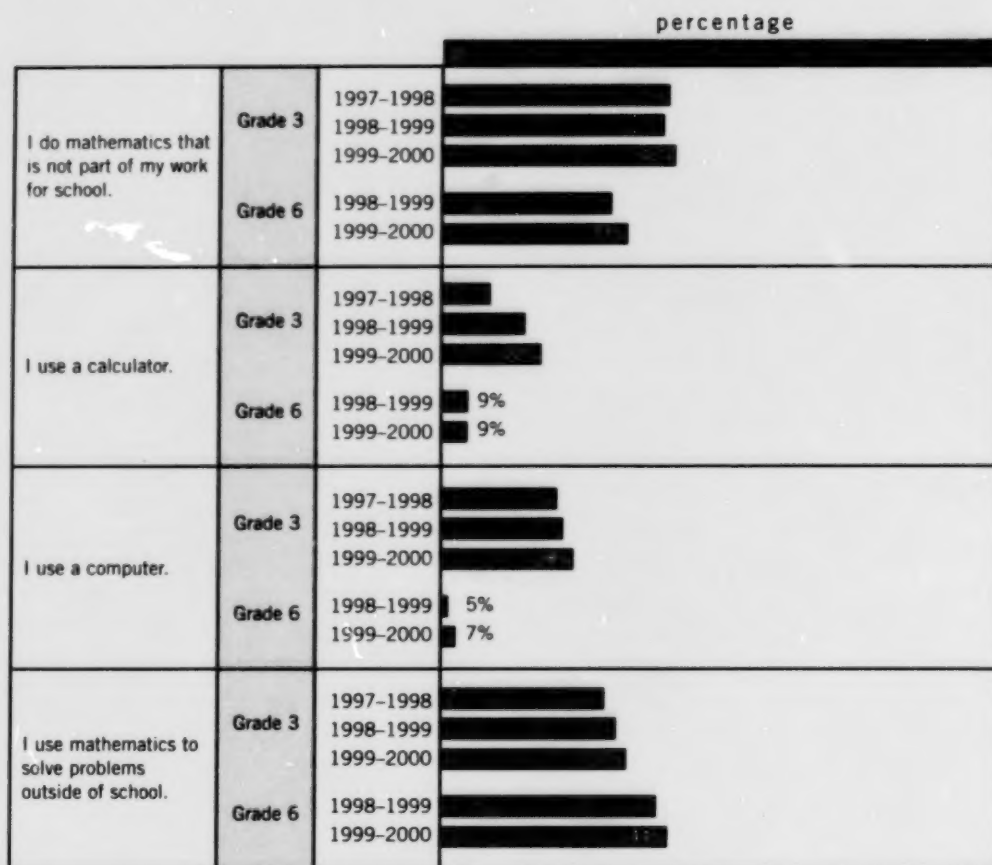
Student Attitudes Toward Mathematics

There are consistent gender differences in attitudes towards mathematics in both grades. The proportion of boys who indicate that they are good at mathematics is 16 percentage points higher than girls in Grade 3 and 19 percentage points higher in Grade 6. The proportion of boys who indicate that they understand the mathematics they do in school is 11 percentage points higher than girls in Grade 3 and 13 percentage points higher in Grade 6. The proportion of boys who indicate they like mathematics is 8 percentage points higher than girls in Grade 3 and 16 percentage points higher than girls in Grade 6. The percentage of boys who think mathematics is easy is 14 percentage points higher in Grade 3 and 16 percentage points higher in Grade 6. In both grades, boys' attitudes toward mathematics appear to be more positive than those of girls.

Student Mathematics Preferences

There are consistent gender differences and changes in preference in mathematics activities. In Grade 3, the proportion of boys who prefer measuring things is 2 percentage points higher than girls and by Grade 6 the proportion is 11 percentage points higher. In Grade 3 the proportion of girls who prefer drawing graphs and charts is 7 percentage points higher, but by Grade 6 this decreases to 4 percentage points. In Grade 3, the proportion of girls who prefer working with shapes is 5 percentage points higher, but this is reversed in Grade 6 with the proportion of boys 2 percentage points higher than girls. In Grade 3, the proportion of boys who prefer estimating and predicting results is 3 percentage points higher and this increases to 13 percentage points in Grade 6. In Grade 3 the proportion of boys who prefer solving mathematical problems is 9 percentage points higher and this increases to 13 percentage points in Grade 6.

Application of Mathematics

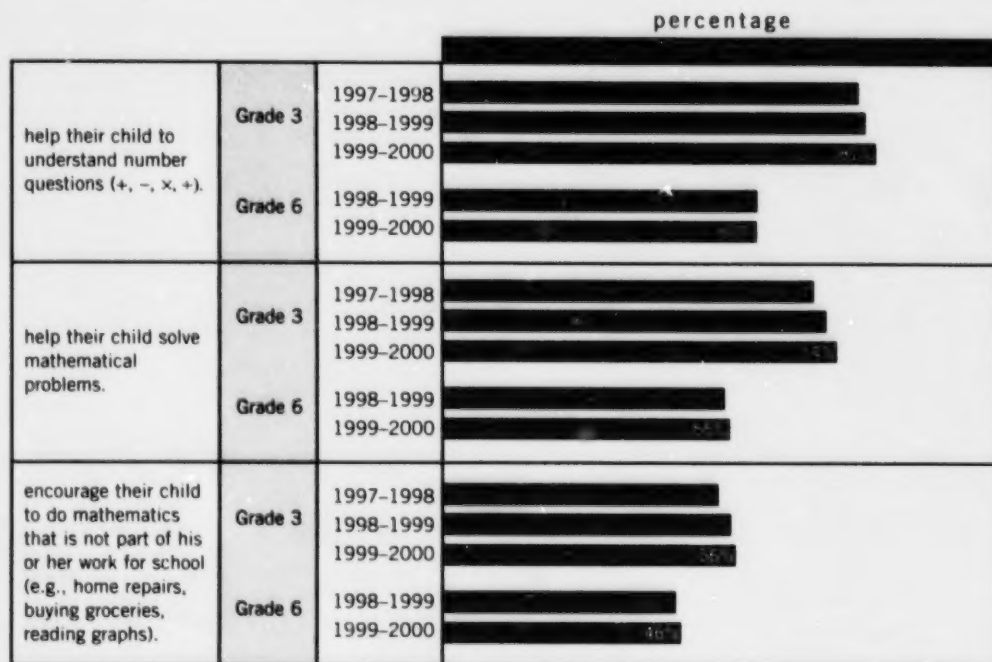


There is little difference in either Grade 3 or Grade 6 in the percentage of girls and boys who use a calculator or a computer, and a slight difference in the percentage who do mathematics that is not part of their work for school. In Grade 3, the proportion of boys who indicate they use mathematics to solve problems outside of school is 2 percentage points higher than girls and in Grade 6, 8 percentage points higher than girls.

Relevant Findings from the Home Questionnaire

Parental Support for Mathematics

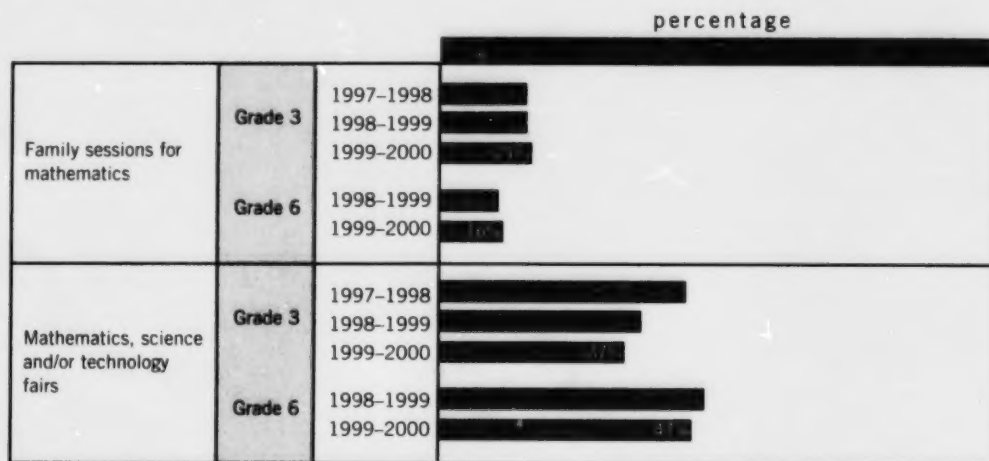
Parents who indicate that *at least a few times a week* they:



Relevant Findings from the Principal Questionnaire

Schoolwide Mathematics Opportunities

Principals who indicate that their school has provided the following opportunities for students in the past 2 years:



Observations and Suggestions From Trained Teacher Markers at the Marking Sites

The trained teacher markers made observations and provided suggestions about students' work to enhance and improve student learning in mathematics. Their observations and suggestions focused on the knowledge and skills students need within the categories and strands of mathematics. There is considerable similarity in the observations and suggestions made by Grade 3 and Grade 6 markers.

Observations Specific to Grade 3 Mathematics

1. In the category Problem Solving, students need to focus on
 - reading and interpreting problem-solving questions,
 - identifying and applying appropriate mathematical operations and procedures, and
 - knowing and applying a problem-solving process.
2. In the category Understanding of Concepts, students need to focus on
 - using specific mathematical concepts, and
 - explaining the appropriate use of mathematical concepts.
3. In the category Application of Mathematical Procedures, students need to focus on
 - selecting appropriate mathematical procedures and operations, and
 - knowing how to accurately apply specific procedures and operations.
4. In the category Communication of Required Knowledge, students need to focus on
 - using correct mathematical terms and symbols,
 - explaining their thinking in multiple ways, and
 - justifying the reasonableness of their answers.
5. In the strand Number Sense and Numeration, students need to focus on
 - understanding and explaining basic operations,
 - practising estimation strategies and computational skills, and
 - using calculators appropriately.
6. In the strand Geometry and Spatial Sense, students need to focus on
 - using correct geometric terms,
 - building and sketching three-dimensional shapes, and
 - identifying and explaining similarities and differences between two- and three-dimensional shapes.

7. In the strand Measurement, students need to focus on
 - working with perimeter and area using standard and non-standard units, and
 - using their knowledge of the relationship between coins and bills.
8. In the strand Patterning and Algebra, students need to focus on
 - identifying and creating patterns in which there are at least two attributes,
 - explaining patterning rules, and
 - continuing both increasing and decreasing patterns.
9. In the strand Data Management and Probability, students need to focus on
 - interpreting charts, graphs and data,
 - constructing graphs such as circle graphs and pictographs, and
 - organizing data in Venn Diagrams.

Observations Specific to Grade 6 Mathematics

1. In the category Problem Solving, students need to focus on
 - interpreting problem-solving questions,
 - understanding and using a problem-solving model,
 - identifying and applying appropriate problem-solving strategies, and
 - completing multi-step problems accurately.
2. In the category Understanding of Concepts, students need to focus on
 - understanding specific mathematical concepts,
 - explaining the appropriate use of mathematical concepts, and
 - applying knowledge of mathematical concepts across the strands.
3. In the category Application of Mathematical Procedures, students need to focus on
 - selecting appropriate mathematical procedures and operations,
 - knowing how to accurately apply specific procedures and operations, and
 - explaining the relationships between specific procedures and operations.
4. In the category Communication of Required Knowledge, students need to focus on
 - explaining their thinking in a clear, concise and organized way,
 - using mathematical language, terms and symbols, and
 - justifying the reasonableness of their answers.

5. In the strand Number Sense and Numeration, students need to focus on
 - proficiency in the basic operations,
 - converting percent to decimals and fractions accurately,
 - using estimating strategies on a regular basis in a variety of contexts, and
 - working appropriately and accurately with a calculator.
6. In the strand Geometry and Spatial Sense, students need to focus on
 - using and explaining geometric terms,
 - describing and comparing geometric shapes, and
 - sketching nets for three-dimensional shapes.
7. In the strand Measurement, students need to focus on
 - completing metric conversions accurately.
8. In the strand Patterning and Algebra, students need to focus on
 - identifying and extending number patterns, and
 - stating the rule for any relationships in patterns.
9. In the strand Data Management and Probability, students need to focus on
 - organizing data into categories and ranges,
 - analyzing, interpreting and making inferences based on information on graphs, tables or charts, and
 - understanding the concepts related to probability.

Data Highlights — Mathematics

Overall Mathematics Achievement

- Fifty-seven percent of Grade 3 students and 51% of Grade 6 students are achieving at Levels 3 and 4 in mathematics. There has been an increase in the percentage of Grade 3 students achieving at levels 3 and 4 over the past three years and an increase in the percentage of Grade 6 students achieving at Levels 3 and 4 over the past two years.
- More girls than boys are achieving at Levels 3 and 4 in mathematics in both Grades 3 and 6. In Grade 3, 60% of girls and 55% of boys are achieving at Levels 3 and 4. In Grade 6, 54% of girls and 49% of boys are achieving at Levels 3 and 4.

Exemptions

- The percentage of students exempted from the mathematics portion of the assessment has increased each year for Grade 3 from 4% in 1997–1998 to 5% in 1998–1999 to 6% in 1999–2000. Over the past two years the percentage of students exempted from the mathematics portion of the assessment has increased for Grade 6 from 4% in 1998–1999 to 6% in 1999–2000.

Teacher Questionnaire Data

- Over 90% of Grade 3 and Grade 6 teachers indicate they are very, or somewhat, comfortable teaching and assessing the knowledge and skills required within each of the mathematics categories. This pattern has been consistent among Grade 3 teachers for over three years and among Grade 6 teachers for two years.
- A very high percentage of Grade 3 and Grade 6 teachers (between 89% and 91%) report teaching mathematical methods or procedures and appropriate use of mathematical forms and symbols; markedly fewer Grade 3 and Grade 6 teachers report focusing on the knowledge and skills related to problem solving. The pattern has been consistent among Grade 3 teachers over three years and Grade 6 teachers over two years.

Student Questionnaire Data

Student Attitudes Towards Mathematics

- The percentage of Grade 3 students who indicate they like mathematics has increased over the three-year period, from 61% to 64%. Over the past two years the percentage of girls who like doing math has remained constant at 60% while the percentage of boys has increased from 65% to 68%. The percentage of Grade 6 students who indicate they like mathematics has increased slightly over the two years from 49% to 51%. More boys than girls indicate that they like mathematics.

Student Preferences — Mathematics Activities

- The percentage of Grade 3 students who indicate they like to solve mathematical problems has increased over the three-year period from 49% to 52%. For the past two years, the percentage of girls who indicate that they like to solve mathematical problems has remained constant at 47%, while the percentage of boys has increased from 53% to 56%. In Grade 6 this year, there is an increase in the percentage of boys (from 42% to 44%) and in the percentage of girls (from 29% to 31%) who like to solve mathematical problems.

Applications of Mathematics

- The data indicate that there is a low percentage of girls and boys in Grades 3 and 6 who use either a calculator or a computer in mathematics. In Grade 3, between 22% and 28% of students for each of the past two years indicate they use a calculator or a computer. For each of the last two years, less than 10% of Grade 6 students indicate they use either a calculator or a computer in mathematics.

Specific Recommendations for Mathematics

Mathematics is essentially an integrated problem-solving activity. All five strands (i.e., major areas of knowledge and skills in the mathematics curriculum) require students to engage in problem solving. Within the four categories (i.e., areas that assess students' ability to understand, apply and communicate mathematical knowledge), problem solving is specifically identified. Problem solving requires students to apply their

understanding of concepts and mathematical procedures and to communicate what they are doing and why. In order to use mathematics effectively in real-life situations, students must integrate and apply knowledge and skills from all categories and strands of the mathematics curriculum.

The following recommendations are based on

- the 1999–2000 overall and category student achievement results;
- patterns and trends emerging from the overall and category results;
- the year-to-year patterns in the collection of data from the various questionnaires; and
- the suggestions from the trained teacher markers at the EQAO marking centres.

The recommendations acknowledge the improvement noted in the overall mathematics results and reinforce and build upon recommendations for improvement in last year's report.

EQAO recommends that

1. Teachers continue their efforts to focus mathematics instruction and assessment on
 - the overall and specific curriculum expectations identified for the grade they are teaching, and
 - the pattern of mathematics skills development throughout the grades as identified in the curriculum.
2. Teachers provide a mathematics program that appropriately addresses all aspects of the curriculum by focusing on
 - the acquisition of overall and specific knowledge and skills required for each strand — Number Sense and Numeration, Geometry and Spatial Sense, Measurement, Patterning and Algebra, and Data Management and Probability,
 - regular exposure to the required knowledge and skills from across the strands throughout the year,
 - the integration and transfer of knowledge and skills between and among strands, and
 - the application and transfer of the knowledge and skills for each strand across all categories — Problem Solving, Understanding of Concepts, Application of Mathematical Procedures and Communication of Required Knowledge.

3. Teachers provide multiple and regular opportunities within and across mathematics strands, focusing on the category of Problem Solving, which requires students to analyze problems and select appropriate strategies that lead to accurate solutions. For example, have students
 - interpret the problem, looking for key pieces of information,
 - understand and apply a problem-solving process,
 - select and apply a variety of problem-solving strategies, and
 - complete multi-step problems.
4. Teachers provide multiple and regular opportunities within and across mathematics strands, focusing on the category of Understanding of Concepts, which requires students to understand and incorporate key mathematical concepts, ideas and relationships. For example, have students
 - demonstrate understanding of specific concepts, such as perimeter and area and explain their meaning, and
 - determine and explain relationships such as those between and among days, weeks, months and years.
5. Teachers provide multiple and regular opportunities within and across mathematics strands, focusing on the category of Application of Mathematical Procedures, which requires students to accurately complete mathematical procedures and operations. For example, have students
 - select and apply appropriate procedures such as constructing and interpreting graphs,
 - select and apply appropriate operations such as division and subtraction,
 - select and apply appropriate methods for computation such as a calculator, a computer, paper and pencil, estimation, and mental arithmetic, and
 - estimate the reasonableness and the accuracy of their answers.
6. Teachers provide multiple opportunities within and across mathematics strands, focusing on the category of Communication, which requires students to clearly explain and analyze their work using appropriate mathematical language and to assess the reasonableness of their answers. For example, have students
 - use correct mathematical terminology and symbols,
 - organize the expression of their thinking in a logical sequence, and
 - explain and justify their solutions both orally and in written form.

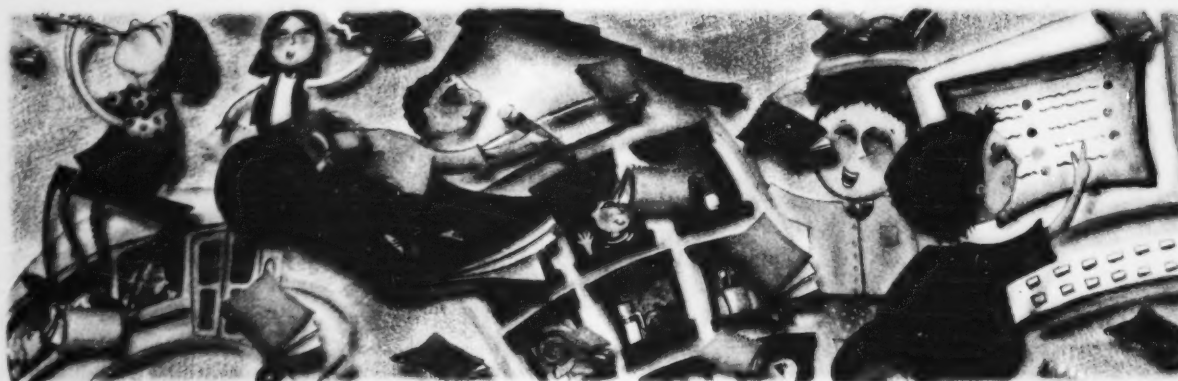
7. Teachers, working with principals, parents, the school improvement planning committee and school council,

- provide opportunities for students to apply mathematical knowledge and skills in real-life situations, in which they perform calculations, solve problems and explain and justify their thinking, and
- support students as they identify connections between mathematics and other subjects and apply their mathematics knowledge and skills to other curriculum areas, such as science, music and language.

8. Teachers emphasize the reading and mathematical skills required to understand and interpret problems, questions, prompts and instructions. For example,

- identify key words and phrases and complete the required actions,
- understand and follow the sequencing of multi-step problems, and
- use mathematics terminology and symbols.





French Immersion

Context

French Immersion programs are offered in school boards across Ontario. No specific provincial curriculum exists for French Immersion programs. Boards develop their own programs locally, using the provincial curriculum documents that guide teachers in English-language classrooms. French Immersion programs vary considerably from board to board, particularly in the amount of English-language instruction that students in these programs receive in different grades and subject areas and in the grade at which students enter.

Any review of the achievement of French Immersion students on the Grade 3 assessment must take into account the variations that exist in French Immersion programs across the province. Depending on the school, students enter French Immersion in different grades, receive different amounts of instruction in English and French, and cover different subject areas in the two languages.

French Immersion Policy for the 1999-2000 Assessment

In 1998-1999, all French Immersion students were required to participate in the assessments. The same French Immersion policy was used for the 1999-2000 assessments.

For the Grade 3 assessment, boards were able to choose among the following three options:

- A) Students participate in the English-language assessment and complete the reading, writing and mathematics components in English.

B) Students participate in the English-language assessment and complete the reading and writing components in English and a French translation of the mathematics component.

C) Students complete only a French translation of the mathematics component.

Students in boards that chose Option C did not complete the reading and writing components and received results only for mathematics. These students are excluded from the tables for reading and writing results. In all three options, students were allowed to use a bilingual glossary of mathematical terms, produced and provided by EQAO.

Recognizing that by the time students in French Immersion reach Grade 6 they should be able to work competently in English, the Grade 6 assessment did not offer options. All Grade 6 French Immersion students were required to participate in the regular English assessment. Students were allowed to use a bilingual glossary of mathematical terms, produced and provided by EQAO. Their results are contained in the Grade 6 tables that appear earlier in this section.

Method 1

Number of French Immersion Students Participating in Grade 3 Assessment

Option A — 3,102 students

Option B — 3,407 students

Option C — 2,742 students

Overall Achievement Data in Grade 3 French Immersion, 1999-2000

Option A: Reading, Writing and Mathematics — ENGLISH

	Exempt	No Data	IIS*	NE1	Level 1	Level 2	Level 3	Level 4
Reading	3	0	5	0	7	28	48	9
Writing	3	0	4	0	1	32	51	10
Mathematics	2	0	2	0	6	28	48	14

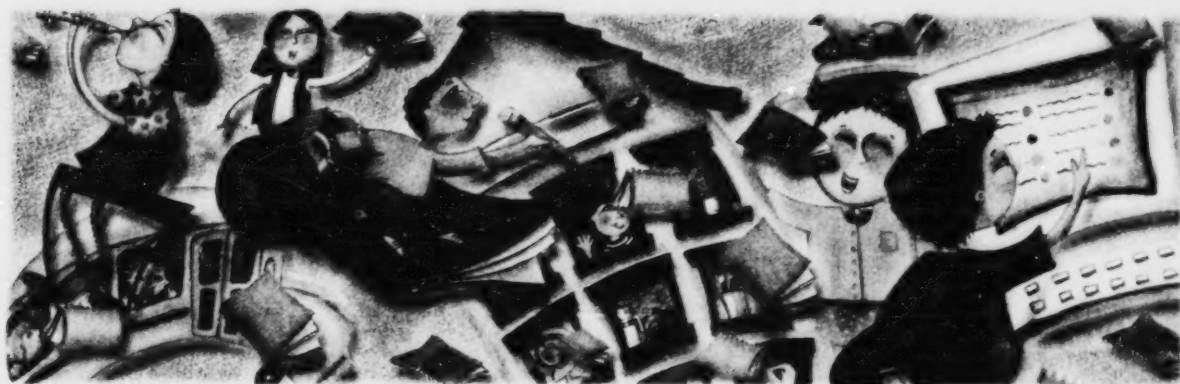
Option B: Reading and Writing — ENGLISH, Mathematics — FRENCH

	Exempt	No Data	IIS*	NE1	Level 1	Level 2	Level 3	Level 4
Reading	4	0	6	0	8	28	48	7
Writing	3	0	5	0	1	35	48	8
Mathematics	3	0	3	0	6	32	44	12

Option C: Mathematics — FRENCH

	Exempt	No Data	IIS*	NE1	Level 1	Level 2	Level 3	Level 4
Mathematics	4	0	2	0	4	24	48	19

*Insufficient Information to Score



The School Achievement Indicators Program (SAIP)

The School Achievement Indicators Program (SAIP) was initiated by the Council of Ministers of Education, Canada (CMEC), to provide a mechanism for reporting on levels of achievement attained by 13- and 16-year-old students across Canada. The SAIP Science Assessment, administered in the spring of 1999, took two and a half hours to administer and consisted of two main parts. Approximately 31,460 students across the country took part in the assessment, including more than 4,800 from Ontario. One randomly selected sample of students completed a written component, responding to a series of short-answer and multiple-choice questions; another student sample completed a practical tasks component, in which they were asked to perform a task and then to answer questions related to the task and the data they had collected. Each student who participated in the assessment also completed an attitude and background survey. In addition, there was a teacher questionnaire to be filled out by the selected students' science teachers and a school questionnaire that was completed by principals. The assessment was conducted both in English and in French, and steps were taken to ensure the results of the two language groups were comparable.

What EQAO Learned about Science Achievement

In the written assessment, Ontario (English) 13- and 16-year-old students generally performed as well as Canadian students overall. In the practical tasks assessment, Ontario (English) 13- and 16-year-old students again performed as well as Canadian students overall.

In 1999, the Ontario (English) 13-year-old students performed significantly better at Level 2 and above for the written assessment than they did in 1996. The 1999 performance of the 16-year-old students was sig-

- The Science Assessment was administered in April 1999.
- A random sample of 13- and 16-year-old students from Ontario took part. Over 2,800 English-language students and 2,200 French-language students participated.
- Student achievement is described by five performance levels, Level 5 being the highest and Level 1 the lowest.
- The written component was administered by a teacher from the school. The practical tasks component was administered by a trained EQAO administrator.
- The assessment was developed by a team from Saskatchewan, Ontario, Quebec, Nova Scotia (French) and Newfoundland and Labrador.
- The public report and accompanying contextual report was released in June 2000.

WRITTEN COMPONENT SAMPLE QUESTIONS:

Level 2

Three friends decide to celebrate the Canada Day holiday by taking a short canoe trip on a nearby lake. Alice describes the behaviour of the birds. Some behaviours were inherited and others were learned.

Which of the following describes a behaviour that birds would have learned?

- A) Bringing back food to the nest to feed their young.
- * B) Looking for their food near campsites.
- C) Sleeping while perched on a branch.
- D) Building nests with small twigs.

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nificantly better at levels 3 and 4 than in 1996. The 1999 performance of both the 13-year-old and the 16-year-old English-language students in the practical tasks assessment was significantly better at levels 3, 4 and 5 than in 1996.

Ontario (French) results in the written assessment for both age groups were the same as Canada overall. In the practical tasks assessment, Ontario (French) 13-year-old students performed as well as Canadian students overall. However, Ontario (French) 16-year-old students did not perform as well as the Canadian 16-year-olds at levels 3, 4 and 5.

The 1999 performance of both the 13-year-old and the 16-year-old French-language students in the written assessment was significantly better at Level 3 than in 1996. In 1999, the Ontario (French) 13-year-old students performed significantly better at all levels of the practical tasks assessment than they did in 1996. The 1999 performance of the practical tasks component by 16-year-old students was significantly better at levels 3, 4 and 5 than in 1996.

What EQAO Learned about Attitudes and Behaviour

Education expectations

Eighty-six to ninety-seven percent of Canadian students expect to continue their education after high school.

- In Ontario, 97% of students expect to continue their education after high school.
- Eighty-six percent of Ontario's English-language students want to go on to university while only 6% want to go on to trades or technical training.
- Fifty-eight percent of Ontario's French-language students want to go on to university while 21% want to go on to trades or technical training. This trend can be observed throughout the country.
- English-language students (48%-86%) are more likely to choose university over trades and technical training (6%-22%). French-language students are more likely to want to go into the trades and technologies (45%-58%).

Language

In those jurisdictions where most of the students did not perform as well as the Canadian average, there is a large proportion of students who do not speak the language of the assessment at home.

- In Ontario, 52% of the French-language students reported that they do not speak French at home. This is compared to 88% of English-language students who speak English at home.
- In those jurisdictions where the student performance was above the Canadian average, 92%-98% of the students stated that they speak the language of the assessment at home.

Attitudes Towards Science

- Thirty-four percent of 13-year-olds and 48% of 16-year-olds agreed or strongly agreed that you need natural ability to do well in science.
- Seventy-eight percent of 13-year-olds and 79% of 16-year-olds agreed or strongly agreed that hard work is a factor in doing well in science.
- The vast majority of both 13-year-old and 16-year-old English-language students agree that many good jobs require the study of science (80%–92% of Canadian 13-year-olds, 86% of Ontario 13-year-olds; 82%–92% of Canadian 16-year-olds, 84% of Ontario 16-year-olds).
- Fewer French-language students agreed that many good jobs require the study of science (51%–66% of Canadian 13-year-olds, 63% of Ontario 13-year-olds; 34%–56% of Canadian 16-year-olds, 46% of Ontario 16-year-olds).

The Use of Computers

The largest percentages of students who use a computer for one or more hours per week for school work are found in Ontario.

- Among the 13-year-olds, 60% of the English-language students and 57% of the French-language students use a computer for one hour or more per week to do school work. Other Canadian jurisdictions range from 25% in Nunavut to 52% in Newfoundland.
- For the 16-year-olds, the percentage of students that use a computer for one hour or more per week is 62% for the English-language students and 59% for the French-language students. The other jurisdictions range from 17% in Nunavut to 59% in English Quebec.
- In both age groups, fewer Francophones reported using a computer for school work than Anglophones.

Reading Enjoyment

There is a relationship between the demonstrated level of performance and the amount of time spent reading for enjoyment for those students doing the written component of the assessment. This does not hold true for those doing the practical tasks component. This may indicate that those students who enjoy reading can decode the questions more easily and, therefore, answer them correctly.

- For the 16-year-olds, it would seem that the positive effect of reading peaks at the six-hour level. Reading more than six hours per week does not give the student a greater probability of demonstrating a performance at levels 4 and 5.

Science Teaching Practices

- In Ontario, 90% of science teachers reported meeting with other teachers for program planning at least once a month.
- Almost 90% of Ontario teachers felt that science should be taught as a process rather than as a body of knowledge and concepts.
- Nearly 92% of Ontario teachers felt that high school students should be streamed by ability.
- Sixty percent of science teachers and 54% of French science teachers say that their students do lab experiments a few times a week or more. However, over 75% of teachers reported that they rarely or never took their students on field trips or outdoors.

WRITTEN COMPONENT SAMPLE QUESTION:

Level 3

Michelle, an amateur astronomer, observes the night sky with her binoculars and her telescope. Michelle knows that light reflected from the Moon's surface reaches Earth in about one second. She also knows that light from Alpha Centauri, the star nearest our solar system, takes about five years to reach Earth.

About how long does it take the light to travel from the Sun to Earth?

- A) 1 second
- * B) 8 minutes
- C) 5 years
- D) 10 years

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- The use of science books and magazines in science classes varies greatly from one language group to the other. The percentage of English-language science classes that use science books and magazines varies from 35% in English Quebec to 57% in the Yukon Territory. Ontario is in the middle at 45%. French-language percentages vary from 10% in Nova Scotia to 22% in Ontario.
- Computer and Internet usage are widely accepted as important teaching tools, but less than 24% of teachers say that they use computers a few times a week or more.
 - > The percentage of teachers who claim to use their computer a few times a week or more varies from 6% in Quebec English-language science teachers to 24% in the Yukon Territory.
 - > The World Wide Web is used less, with the percentages going from 3% in Nunavut to 14% in English New Brunswick.
 - > In Ontario, 12% of Anglophone and 15% of Francophone science teachers use computers. Yet only 8% of both groups use the Internet in their classes more than a few times a week.

Homework

- When it comes to assigning homework, the range for assigning more than 30 minutes of homework at a time goes from 9% in Prince Edward Island to 32% in French Ontario.
 - > The percentage of teachers who assign homework three or more times a week ranges from 18% in the Northwest Territories to 62% in British Columbia.
 - > Those jurisdictions whose students performed at or above the Canadian average assign shorter homework assignments more often during the week.
 - > French-language teachers assign homework less often than their English-language colleagues.

Gender and Science Teachers

- The majority of science teachers are female. These percentages include teachers of both 13- and 16-year-old students.
- Sixty-one percent of the teachers who answered the English version of the teacher questionnaire in Ontario are female.
- Fifty-seven percent of the teachers who answered the French version of the teacher questionnaire in Ontario are female. This percentage of females is consistent across all other Canadian jurisdictions as well.
- For science teachers of 13-year-old students, the percentages for English Ontario are 60% female and 40% male.
- For science teachers of 16-year-old students, the percentages for English Ontario are 64% female and 36% male.
- For science teachers of 13-year-old students, the percentages for French Ontario are 49% female and 51% male.
- For science teachers of 16-year-old students, the percentages for French Ontario are 66% female and 34% male.

Science Teaching Qualifications

- The vast majority of those teaching science in Ontario with a university science degree are teaching at the senior level. Those teaching science at the elementary and intermediate levels primarily hold bachelor of arts degrees. There are still some individuals teaching science at both the elementary and senior levels without a B.Ed. or at least one year of teacher training.
 - > At the English-language elementary level, 28% of female teachers and 16% of male teachers do not have the recognized teacher training.
 - > At the English-language secondary level, 12% of female teachers and 10% of male teachers do not have the recognized teacher training.
 - > At the French-language elementary level, 10% of the female teachers and 20% of the male teachers are teaching at the elementary level without a B.Ed. or equivalent.
 - > At the French-language secondary level, 19% percent of the female teachers and 15% of the male teachers are teaching at the senior level without a B.Ed. or equivalent.
- Ontario has the third-highest percentage of specialized teachers holding a B.Sc. in Canada.
 - > Sixty-four percent of Ontario's English-language science teachers hold a B.Sc. Only French Quebec (72%) and English Quebec (67%) have a higher percentage of teachers who hold a B.Sc.
 - > Fifty-nine percent of Ontario's French-language science teachers hold a B.Sc. This is the second largest percentage in the Francophone community and fifth overall in the country.

Ontario English-language teachers

- > Twenty-four percent of female and 29% of male Ontario English-language teachers of 13-year-old students hold their B.Sc.
- > Eighty-four percent of female and 86% of male Ontario English-language teachers of 16-year-old students hold their B.Sc.

Ontario French-language teachers

- > Twenty percent of female and 14% of male Ontario French-language teachers of 13-year-old students hold their B.Sc.
- > Eighty-seven percent of female and 92% of male Ontario French-language teachers of 16-year-old students hold their B.Sc.

Parental Involvement

French-language schools rely more on parental involvement and the community than do English-language schools.

- > In general, Francophone populations (79%-100%) feel that parental involvement is an important factor in a

school's capacity for instruction. Francophone populations (52%-77%) also feel that community conditions are important factors in the school's capacity for instruction.

- > These factors do not seem to be equally important for English-language populations. English-language populations don't seem to view parental involvement and community conditions as equally important factors in the school's capacity for instruction (16%-43% for parental involvement and 17%-43% for community conditions).

Students With Special Needs

Ontario's English-language schools reported the highest median percentages of students with special needs. Fourteen percent of the school population are students with special needs.

- > At the elementary level, the percentages of students with special needs range from 5% to 45%, with a median of 15%. At the secondary level the range is 0% to 100%, with the median being 13%.
 - > The territories reported higher median percentages (18% to 35%) of students with special needs than the remainder of the country.
 - > Among French-language populations, both Ontario and Quebec reported medians of 9% of their students having special needs.
 - > The percentage of Ontario French-language students with special needs ranges from 1% to 40% at the elementary level, with a median of 10%. At the secondary level the range is from 0% to 90%, with a median of 10%.
- Sixty percent of Ontario's English-language principals indicated that their students had access to science enrichment programs. This is the highest percentage in the country, followed closely by New Brunswick (English) at 59%, British Columbia at 57% and Quebec (French) at 53%.
 - With respect to access to remedial programs, Ontario English-language schools are third in the country with 59% of their students having access to remedial programs, behind the Yukon Territory with 91% and British Columbia with 61%. However, this is ahead of Quebec (French) at 56% and Saskatchewan at 54%.
 - All minority language populations reported significantly less access to remedial programs than their provincial colleagues.
 - Only 32% of Ontario's French-language schools reported that their students had access to enrichment classes and only 31% had access to remedial teaching services. These percentages are similar to those percentages reported by other French-language minority populations. The Anglophones of Quebec have greater access to remedial teaching than do the other minority populations.
 - More French-language schools than English-language schools reported that the shortage of instructional materials was a limiting factor to instruction. Budgets for supplies were deemed to be a less important factor relating to instruction by both language groups. The Ontario percentages were the highest in the country.

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Comparisons With Other Jurisdictions

The following charts indicate how the student achievement results of the provinces and territories compare with Canada overall. The charts show the proportion of 13-year-old students attaining achievement Level 2 and above, and the proportion of 16-year-olds attaining achievement Level 3 and above.

*Provinces/Territories Compared with Canada Overall
(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Written Component*

Age			
	Higher Than Canada	Same As Canada	Lower Than Canada
13	Alberta 82.5% (± 2.4)	British Columbia 76.1% (± 2.9)	Manitoba (F) 61.2% (± 3.7)
		Canada 73.3% (± 0.8)	New Brunswick (F) 60.5% (± 3.1)
		Manitoba (E) 72.8% (± 3.0)	Newfoundland 68.0% (± 2.6)
		New Brunswick (E) 69.4% (± 3.2)	Nunavut 17.5% (± 2.5)
		Nova Scotia (E) 69.5% (± 3.3)	Northwest Territories 52.2% (± 2.3)
		Ontario (E) 72.1% (± 3.1)	Nova Scotia (F) 61.8% (± 3.5)
		Prince Edward Island 74.3% (± 2.9)	Ontario (F) 57.2% (± 3.3)
		Quebec (E) 69.6% (± 3.0)	
		Quebec (F) 72.8% (± 2.8)	
		Saskatchewan 75.5% (± 2.9)	
		Yukon Territory 71.3% (± 2.6)	
16	Alberta 85.8% (± 2.3)	British Columbia 75.8% (± 3.2)	New Brunswick (F) 69.4% (± 3.1)
	Manitoba (E) 79.8% (± 2.6)	Canada 76.1% (± 0.8)	Northwest Territories 67.2% (± 3.7)
	Prince Edward Island 81.3% (± 3.1)	Manitoba (F) 76.2% (± 3.3)	Nunavut 23.8% (± 6.2)
	Quebec (F) 80.5% (± 2.4)	New Brunswick (E) 72.6% (± 3.3)	Ontario (F) 80.1% (± 4.0)
		Newfoundland 72.7% (± 2.8)	
		Nova Scotia (E) 74.6% (± 2.4)	
		Nova Scotia (F) 73.8% (± 7.6)	
		Ontario (E) 72.2% (± 3.4)	
		Quebec (E) 76.7% (± 2.7)	
		Saskatchewan 77.4% (± 2.9)	
		Yukon Territory 74.0% (± 3.4)	

Note:

- The above groupings take sampling error and confidence intervals into account. For each population, the percentage of students achieving Level 2 and above (13-year-olds) and Level 3 and above (16-year-olds) is shown together with the sampling error (in parentheses) for each statistic.
- Levels 2 and 3 are highlighted because, in designing SAIP, the program developers established the principle that most 13-year-olds would meet the criteria for Level 2 and that most 16-year-olds would meet the criteria for Level 3.
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(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Written Component*

	Higher Than Canada	Same As Canada	Lower Than Canada
Age 13	Alberta 82.5% (± 2.4)	British Columbia 76.1% (± 2.9) Canada 73.3% (± 0.8) Manitoba (E) 72.8% (± 3.0) New Brunswick (E) 69.4% (± 3.2) Nova Scotia (E) 69.5% (± 3.3) Ontario (E) 72.1% (± 3.1) Prince Edward Island 74.3% (± 2.9) Quebec (E) 69.6% (± 3.0) Quebec (F) 72.8% (± 2.8) Saskatchewan 75.5% (± 2.9) Yukon Territory 71.3% (± 2.6)	Manitoba (F) 61.2% (± 3.7) New Brunswick (F) 60.5% (± 3.1) Newfoundland 68.0% (± 2.6) Nunavut 17.5% (± 2.5) Northwest Territories 52.2% (± 2.3) Nova Scotia (F) 61.8% (± 3.5) Ontario (F) 57.2% (± 3.3)
Age 16	Alberta 85.8% (± 2.3) Manitoba (E) 79.8% (± 2.6) Prince Edward Island 81.3% (± 3.1) Quebec (F) 80.5% (± 2.4)	British Columbia 75.8% (± 3.2) Canada 76.1% (± 0.8) Manitoba (F) 76.2% (± 3.3) New Brunswick (E) 72.6% (± 3.3) Newfoundland 72.7% (± 2.8) Nova Scotia (E) 74.6% (± 2.4) Nova Scotia (F) 73.8% (± 7.6) Ontario (E) 72.2% (± 3.4) Quebec (E) 76.7% (± 2.7) Saskatchewan 77.4% (± 2.9) Yukon Territory 74.0% (± 3.4)	New Brunswick (F) 69.4% (± 3.1) Northwest Territories 67.8% (± 3.7) Nunavut 23.8% (± 6.2) Ontario (F) 60.1% (± 4.0)

Note:

- The above groupings take sampling error and confidence intervals into account. For each population, the percentage of students achieving Level 2 and above (13-year-olds) and Level 3 and above (16-year-olds) is shown together with the sampling error (in parentheses) for each statistic.
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- "(E)" and "(F)" refer to English and French, respectively.

Provinces/Territories Compared with Canada Overall
(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Practical Tasks Component

	Higher Than Canada	Same As Canada	Lower Than Canada
Age 13		Canada 90.0% (± 1.0) Ontario (E) 86.8% (± 2.5) Ontario (F) 87.8% (± 2.9) Others 92.1% (± 1.3) Saskatchewan 88.6% (± 2.2)	
Age 16		Canada 75.7% (± 1.4) Ontario (E) 72.2% (± 3.6) Others 78.1% (± 2.4) Quebec 78.7% (± 2.8) Saskatchewan 74.6% (± 3.1)	Ontario (F) 84.7% (± 4.5)

Note:

- The above groupings take sampling error and confidence intervals into account. For each population, the percentage of students achieving Level 2 and above (13-year-olds) and Level 3 and above (16-year-olds) is shown together with the sampling error (in parentheses) for each statistic. Only those jurisdictions that had provincial results are represented in this table.
- Levels 2 and 3 are highlighted because, in designing SAIP, the program developers established the principle that most 13-year-olds would meet the criteria for Level 2 and that most 16-year-olds would meet the criteria for Level 3.
- "Others" refers to the results from those jurisdictions who participated only in the Canadian sample.
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Comparisons With Other Jurisdictions

The following charts indicate how the student achievement results for the provinces and territories (and Canada overall) compare with Ontario (English).¹ The groupings are derived from the proportion of 13- and 16-year-old students attaining achievement Level 2 and above and Level 3 and above, respectively, as shown in the Appendix.

¹ In the absence of data for Ontario overall, we have used the results for Ontario (English) for comparison purposes. Because of the relative sizes of the English and French populations, statistics for Ontario overall would have been virtually identical to the statistics for Ontario (English).

Provinces/Territories Compared with Ontario (English)
(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Written Component

Age	Higher Than Ontario (English)	Same As Ontario (English)	Lower Than Ontario (English)
	Alberta 82.5% (± 2.4)	British Columbia 76.1% (± 2.9)	Manitoba (F) 61.2% (± 3.7)
13		Canada 73.3% (± 0.8)	New Brunswick (F) 60.5% (± 3.1)
		Manitoba (E) 72.8% (± 3.0)	Northwest Territories 52.2% (± 2.3)
		New Brunswick (E) 69.4% (± 3.2)	Nova Scotia (F) 61.8% (± 3.5)
		Newfoundland 68.0% (± 2.6)	Nunavut 17.5% (± 2.5)
		Nova Scotia (E) 69.5% (± 3.3)	Ontario (F) 57.2% (± 3.3)
		Ontario (E) 72.1% (± 3.1)	
		Prince Edward Island 74.3% (± 2.9)	
		Quebec (E) 69.6% (± 3.0)	
		Quebec (F) 72.8% (± 2.8)	
		Saskatchewan 75.5% (± 2.9)	
		Yukon Territory 71.3% (± 2.6)	
16	Alberta 85.8% (± 2.3)	British Columbia 75.8% (± 3.2)	Nunavut 23.8% (± 6.2)
	Manitoba (E) 79.8% (± 2.6)	Canada 76.1% (± 0.8)	Ontario (F) 80.1% (± 4.0)
	Prince Edward Island 81.3% (± 3.1)	Manitoba (F) 76.2% (± 3.3)	
	Quebec (F) 80.5% (± 2.4)	New Brunswick (E) 72.6% (± 3.3)	
		New Brunswick (F) 69.4% (± 3.1)	
		Newfoundland 72.7% (± 2.8)	
		Northwest Territories 67.8% (± 3.7)	
		Nova Scotia (E) 74.6% (± 2.4)	
		Nova Scotia (F) 73.8% (± 7.6)	
		Ontario (E) 72.2% (± 3.4)	
		Quebec (E) 76.7% (± 2.7)	
		Saskatchewan 77.4% (± 2.9)	
		Yukon Territory 74.0% (± 3.4)	

Note:

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Provinces/Territories Compared with Canada Overall
(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Practical Tasks Component

Age	Higher Than Canada	Same As Canada	Lower Than Canada
Age 13		Canada 90.0% (± 1.0) Ontario (E) 86.8% (± 2.5) Ontario (F) 87.8% (± 2.9) Others 92.1% (± 1.3) Saskatchewan 88.6% (± 2.2)	
Age 16		Canada 75.7% (± 1.4) Ontario (E) 72.2% (± 3.6) Others 78.1% (± 2.4) Quebec 78.7% (± 2.8) Saskatchewan 74.6% (± 3.1)	Ontario (F) 64.7% (± 4.5)

Note:

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(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Written Component

Age	Higher Than Ontario (English)	Same As Ontario (English)	Lower Than Ontario (English)
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Age 16	Alberta 85.8% (± 2.3) Manitoba (E) 79.8% (± 2.6) Prince Edward Island 81.3% (± 3.1) Quebec (F) 80.5% (± 2.4)	British Columbia 75.8% (± 3.2) Canada 76.1% (± 0.8) Manitoba (F) 76.2% (± 3.3) New Brunswick (E) 72.6% (± 3.3) New Brunswick (F) 69.4% (± 3.1) Newfoundland 72.7% (± 2.8) Northwest Territories 67.8% (± 3.7) Nova Scotia (E) 74.6% (± 2.4) Nova Scotia (F) 73.8% (± 7.6) Ontario (E) 72.2% (± 3.4) Quebec (E) 76.7% (± 2.7) Saskatchewan 77.4% (± 2.9) Yukon Territory 74.0% (± 3.4)	Nunavut 23.8% (± 6.2) Ontario (F) 60.1% (± 4.0)

Note:

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Provinces/Territories Compared with Ontario (English)
(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Practical Tasks Component

	Higher Than Ontario (English)	Same As Ontario (English)	Lower Than Ontario (English)
Age 13	Others 92.1% (± 1.3)	Canada 90.0% (± 1.0) Ontario (E) 86.8% (± 2.5) Ontario (F) 87.8% (± 2.9) Saskatchewan 88.6% (± 2.2)	
Age 16	Quebec 78.7% (± 2.8)	Canada 75.7% (± 1.4) Ontario (E) 72.2% (± 3.6) Ontario (F) 64.7% (± 4.5) Others 78.1% (± 2.4) Saskatchewan 74.6% (± 3.1)	

Note:

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Provinces/Territories Compared with Ontario (English)
(Percentage of 13-year-olds, Level 2 and Above; Percentage of 16-year-olds, Level 3 and Above)
Practical Tasks Component

	Higher Than Ontario (English)	Same As Ontario (English)	Lower Than Ontario (English)
Age 13	Others 92.1% (± 1.3)	Canada 90.0% (± 1.0)	
		Ontario (E) 88.8% (± 2.5)	
		Ontario (F) 87.8% (± 2.8)	
		Saskatchewan 88.6% (± 2.2)	
Age 16	Quebec 78.7% (± 2.8)	Canada 75.7% (± 1.4)	
		Ontario (E) 72.2% (± 3.6)	
		Ontario (F) 84.7% (± 4.5)	
		Others 78.1% (± 2.4)	
		Saskatchewan 74.6% (± 3.1)	

Note:

- The above groupings take sampling error and confidence intervals into account. For each population, the percentage of students achieving Level 2 and above (13-year-olds) and Level 3 and above (16-year-olds) is shown together with the sampling error (in parentheses) for each statistic. Only those jurisdictions who sampled so as to have provincial results are represented in this table.
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General Recommendations

Introduction

A central part of EQAO's mandate is to make recommendations for improvement.

In addition to subject-specific recommendations that provide focused, practical advice that teachers and parents can act on right away, the annual *Provincial Report on Achievement* contains general recommendations. This section addresses broader issues that call for short-, medium- and long-term action on the part of all partners in the education community.

In developing this year's general recommendations, EQAO has built on data from the 1999-2000 Grade 3 and Grade 6 assessments and on the recommendations it made in previous editions of the *Provincial Report*.

EQAO's general recommendations also reflect the feedback contained in the action plans that school boards have submitted for the past two years. EQAO presented its findings and recommendations from its first review of school board action plans in the 1998-1999 *Provincial Report on Achievement*.

This fall, EQAO will publish a separate report on its review of the action plans that school boards submitted on or before April 15, 2000. Copies of this report (*The Ontario Report and Guide on School Improvement Planning*), which will be sent to all schools and school boards, can also be downloaded from EQAO's Web site (www.eqao.com) when they become available.

This annual review of school board action plans has become an increasingly important focus for EQAO. As additional assessment data become available each year, the need for school boards to demonstrate effective follow-up becomes more acute. When school boards update their action

plans, they must analyze the provincial data and the recommendations in this report in the context of their own local results. Every school board action plan is unique because it reflects the particular needs, priorities, challenges and strengths of the community.

This year, EQAO also asked Ontario's faculties of education, the Ontario College of Teachers and the Ministry of Education to provide feedback on how they have addressed the recommendations that EQAO made in last year's *Provincial Report*.

Recommendations

1. EQAO recommends that **students**, with guidance and support from their teachers and parents, continue to
 - a) examine the quality of their work in relation to the provincial expectations and levels of achievement;
 - b) identify or review their personal learning goals;
 - c) develop or update their plan for achieving these goals; and
 - d) monitor their progress over time by measuring their achievement against their plan.
2. EQAO recommends that **parents**, with support from teachers, schools and school boards,
 - a) become more familiar with the expectations and levels of achievement in *The Ontario Curriculum, Grades 1-8*;
 - b) understand the different ways of assessing a child's achievement;
 - c) pay close attention to the gaps in students' knowledge and skills that are identified in this report, particularly where these gaps are also apparent in their child's work; and
 - d) work with their child's teacher to develop strategies and activities that they can use at home to reinforce and extend what their child is learning at school.
3. EQAO recommends that, in addition to implementing the subject-specific recommendations in this report, **teachers**
 - a) use examples of student work (e.g., anchors, rationales and assessment scales provided by EQAO, as well as exemplars, rationales and assessment scales provided by the Ministry of Education) to help students identify and understand the characteristics of Level 3 and Level 4 student work across each of the subject categories and mathematics strands and strive to attain these levels; and
 - b) learn from colleagues who, by participating in school board or provincial initiatives, have enhanced their skills in curriculum and assessment.

4. EQAO recommends that **principals**

- a) ensure that their school Action Plan for Improvement reflects the subject-specific recommendations in this report, particularly where these recommendations address weaknesses evident in their school results;
- b) disseminate data from EQAO assessments to teachers in all subject areas and grades and arrange opportunities for dialogue;
- c) ensure that any student exemption granted from all or part of the assessment meets the criteria described in EQAO's general policy on exemption found in the *Administration Guide for Teachers and School Principals*;
- d) examine the differences in achievement and attitudes between girls and boys and, using EQAO's subject-specific recommendations as a starting point, bring teachers and parents together to consider strategies and approaches; and
- e) encourage teachers to participate in EQAO test development and marking opportunities and to share their learning from these experiences with other teachers in the school.

5. EQAO recommends that **school councils**

- a) review EQAO's new *Ontario Report and Guide on School Improvement Planning*;
- b) work with the principal to ensure that EQAO's subject-specific recommendations are disseminated to parents of children in all grades;
- c) assist the principal in reporting their school's results from the 1999-2000 assessments and in updating their school's Action Plan for Improvement;
- d) work with the principal and school staff to set short-, medium- and long-term goals for improvements in student achievement and in student attitudes towards reading, writing and mathematics;
- e) monitor the school's progress towards achieving these goals and inform parents and the community about progress achieved; and
- f) encourage parents to contact the school if they have concerns about their child's participation in an EQAO assessment or about particular issues, such as accommodations for students with special needs.

6. EQAO recommends that **school boards**

- a) examine and act on the findings and recommendations in EQAO's *Ontario Report and Guide on School Improvement Planning*;
- b) monitor how effectively schools are using school board and provincial assessment data to support improvement planning;

- c) increase opportunities and incentives for teachers to share exemplary instructional and assessment practices and support materials;
- d) identify resources, technology and instructional materials necessary to meet the requirements of *The Ontario Curriculum, Grades 1-8*;
- e) monitor school exemption rates to ensure full participation in EQAO assessments;
- f) ensure that leadership expectations and training for principals includes a focus on school improvement planning; and
- g) analyze and use the gender-based data provided in the report to develop, in concert with schools, teachers, school councils and parents, strategies for ensuring the same learning opportunities for both boys and girls in all of Ontario's publicly funded schools.

Faculties of Education

Over the past three years, EQAO has made several recommendations to Ontario's faculties of education. This year, EQAO asked the faculties to outline how they have addressed EQAO's recommendations. The following is a summary of their responses:

- In addition to elective advanced courses on assessment and evaluation at the pre-service level, all courses now incorporate units on student assessment and reporting.
- Most faculties require pre-service teachers to gain experience with a variety of assessment techniques and strategies as part of their practice teaching.
- Some faculties have taken steps to prepare students for the task of analyzing and interpreting provincial assessment results.
- Some subject-area instructors are using results from EQAO provincial assessments and from national and international assessments like TIMSS and SAIP to determine what specific content to emphasize in their courses.
- Some faculties have developed innovative approaches to ensure that teachers are well prepared to work in partnership with parents, school councils and community members.

7. Accordingly, EQAO recommends that **faculties of education**

- a) continue to address the theory and practice of assessment in pre-service programs and to encourage pre-service teachers to learn about provincial, national and international assessments;
- b) continue to require pre-service teachers to demonstrate proficiency in using assessment results to develop programs that improve achievement;
- c) encourage subject-area instructors to address the subject-specific recommendations in this report;
- d) make information available on the qualifications of students admitted to Ontario's faculties of education; and

- e) help teachers develop strategies to address the differences identified in EQAO's assessments regarding achievement and attitudes between girls and boys.

Ontario College of Teachers

Over the past three years, EQAO has made several recommendations to the Ontario College of Teachers. This year, EQAO asked the College to outline how it has addressed EQAO's recommendations. The following is a summary of the College's response:

- The Standards of Practice and Education Committee has approved an Accreditation Regulation that creates additional professional learning options and expands the base of providers that is currently pending Ministry approval.
- The College is considering accrediting teachers' participation in EQAO test development and marking.
- The College is developing an Additional Qualification Course in assessment based on input from education stakeholder groups and resource persons with expertise in classroom assessment.
- The revised Principal's Qualification Program Guidelines, currently being field tested before implementation, make specific reference to classroom assessment.
- The Supervisory Officer's Qualification Program Guidelines are also being revised and will make more specific reference to assessment and the need to use data from assessment for system improvement planning.

8. Accordingly, EQAO recommends that the **Ontario College of Teachers**

- a) continue to expand opportunities for teachers to enhance their assessment-related knowledge and skills and their effectiveness in using results to improve classroom instruction and program planning;
- b) proceed with accrediting teachers' participation in EQAO test development and marking activities;
- c) review professional development offerings and enrolment in light of the data and subject-specific recommendations published annually in the *Provincial Report*; and
- d) monitor elementary and secondary teachers' professional development needs on a regular basis and communicate these needs to school boards, the Ministry of Education, parents and the public.

Ministry of Education

Over the past three years, EQAO has made several recommendations to the Ministry of Education. This year, EQAO asked the Ministry to outline how it has addressed EQAO's recommendations. The following is a summary of the Ministry's response:

- The Ministry is supporting the full implementation of EQAO's Education Quality Indicators Program (EQUIP). EQUIP will provide data on a range of factors that contribute to achievement and will create a comprehensive accountability framework for Ontario's schools and school boards.
- The Curriculum Implementation Partnership continues to coordinate and provide ongoing support for curriculum policy and implementation at both the elementary and secondary levels.
- The Ministry has been using data from EQAO assessments in its policy development and curriculum decision-making processes.
- Through the Education Improvement Commission, the Ministry is working with ten Ontario schools on a project that focuses on effective school improvement planning and examines how EQAO assessment data can assist schools that face similar circumstances.

9. Accordingly, EQAO recommends that the **Ministry of Education**

- a) use the accumulated EQAO assessment data to review the implementation of *The Ontario Curriculum, Grades 1–8* and to identify areas where schools and school boards require additional direction, support and resources;
- b) support the implementation of the Early Learning Indicators, which have been developed and field tested;
- c) continue to support the full implementation of EQUIP; and
- d) continue to provide curriculum exemplars that promote the effective use of assessment data and build on this model to assist teachers in the implementation of the new secondary curriculum.